Patient harm and medical error as threats to the Doctor Identity - a new lens for improving patient safety?

A thesis submitted for the degree of
Doctor of Philosophy of the Australian National University

Student statement

This thesis is my own original work. According to the *Procedure: Higher degree by research – submission and examination of these*s, the word count of the thesis is 99,500 words.

Fiona Tito Wheatland

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Abstract

Preventable patient harm and medical error occur frequently in health care. Despite the apparent widespread commitment to the "First do no harm" aphorism in medicine, it has proved difficult to get prompt, effective and sustained action to detect and prevent these. The existence of preventable patient harm and medical error has been well established over the past 50 years and its high frequency has been confirmed in many international studies over the past two decades.

The thesis used a secondary source research methodology across a wide range of disciplines that have looked at medical error, preventable harm and doctor behaviour to explore possible explanations for these phenomena. The thesis concludes that there is an alternative plausible explanation for why action on identification and action on these issues by doctors, as leaders in health care, have been so slow and inconsistent. The thesis provides evidence in support of three hypotheses that form part of this explanation:

- the occurrence of patient harm and medical error can be perceived psychologically by a doctor as a fundamental threat to his or her identity;

- a serious threat to identity causes a range of psychological defences, often rooted in the biological responses of the brain to threats to existence, and these defences can make it hard for a doctor to recognise, identify or accept the risk of patient harm;

- elements of the Doctor Identity deny ordinary human psychological responses and physical limitations, and thus promote unrealistic self or group perceptions. This creates risks to both doctors and patients. Many of these risks may be avoidable through modifying these perceptions and developing more realistic self-and professional schemas.

The thesis concludes that these hypotheses provide potential new ways to address the issues, and reduce harm caused to both patients and doctors.

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Introduction

A.   *The genesis of this thesis*

1.   The Professional Indemnity Review 1991-1995

The genesis for this thesis was my work as Chair of the Commonwealth Government's Review of Professional Indemnity Arrangements for Health Care Professionals (called variously the Professional Indemnity Review and the Tito Review) between 1991-1995. My research question arose over the following 8 years as I worked to implement various elements of that work, in particular by the introduction of measures into healthcare to reduce patient harm.

A key part of the Professional Indemnity Review's work was the development and management of the first and only national Australian study into adverse events in the Australian hospital system. Eventually known as the Quality in Australian Health Care Study[1], this study was based on the methodology of the US Harvard Medical Practice Study[2] with some important differences. The Harvard Study was focused on negligent healthcare and its relationship to litigation, whereas the Australian Study was focused on preventability of the harm to patients that arose from healthcare provision. Both studies looked at "adverse events", which were broadly defined as an unintended injury or complication resulting in disability, death or prolongation of a hospital stay and caused by healthcare management (not the patient's underlying condition)[3].

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[1]   Originally the study was called the Australian Hospital Care Study (as noted in the Professional Indemnity Review's Final Report), but this was changed to avoid confusion with another study to the "Quality in Australian Health Care Study": Review of Professional Indemnity Arrangements for Health Care Professional. *Compensation and Professional Indemnity in Health Care – Final Report.* November 1995 Australian Government Publishing Service, Canberra (PIR Final Report), paragraph 1.10.

[2]   Harvard Medical Practice Study. (Harvard Study) *Patients, doctors, and lawyers: medical injury, malpractice litigation, and patient compensation in New York: the report of the Harvard Medical Practice Study to the State of New York.* 1990 Harvard Medical Practice Study Boston. [Harvard Study Report] A full copy of the scanned Report is available electronically through the New York State Library, via WebCat Call no: HEA 302-4 PATDL – 90 33997, as a 4-part download. Accessed 27 September 2006.

[3]   This concept is explored in more detail in Chapter 1 following, Section B, Language and Patient Harm, page 25 and following.

The original purpose of the Australian study was to provide some base line numbers on the incidence of preventable harm in healthcare, to explore the feasibility of a no-fault compensation scheme for healthcare injuries, where preventability might be the basis for eligibility. Funding for this study and other work of the Professional Indemnity Review was obtained by the then Health Minister, the Hon Brian Howe MP, who had a deep personal commitment to the work. The perceived need for a no-fault scheme arose from a report by Ian Bidmeade, which had been commissioned by the Australian Health Ministers Council, in response to the first Australian Medical Defence industry[4] crisis in the late 1980's. The main reasons for this crisis were the long-term underfunding of liabilities across all medical defence organisations (MDOs) in the Australian market and the nationalisation of United Kingdom (UK) medical defence liabilities by the National Health Service.[5] This latter event stopped the large income stream from UK doctors to the UK-based MDOs, exposing more clearly the liabilities of their Australian operations. The industry-wide, long term under-funding resulted in one UK based MDO and one Australian based MDO making financial calls on their members (equivalent to an additional annual "premium" contribution) to meet estimated shortfalls in reserves for the claims incurred by their member doctors in1989. This problem was compounded by several incursions by commercial insurers offering low cost "claims made"[6] premiums with limited cover to low

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[4]   The Medical Defence industry was a collection of discretionary mutual doctor-based bodies, which provided insurance-like, claims incurred indemnity cover for doctor against the costs and payments associated with negligence claims and disciplinary actions. While offering a service similar to insurance, these organisations were not prudentially regulated by Government at that time. Insurers offering similar products were regulated at that time by the Commonwealth Government, under the *Insurance Act 1973*.

[5]   In the United Kingdom, this was called a move to Crown Liability, which was a form of vicarious liability that had applied to all other employees of the National Health Service, except doctors. For a useful summary of these changes, see Heasell SL. Economic aspects of medical negligence in the context of the National Health Service in Britain. 1994 *Annals of Health Law*, volume 3, page 205-223.

[6]   At that time, and up to the MDO financial crisis of the 2000's, the Australian MDO industry operated through mutual funds outside of the scrutiny of the insurance regulation regime. They offered a "claims incurred" product, where they agreed to meet the liabilities of their members for all claims which arose from a year of coverage, whenever they were made. Because of the long tail nature of MDO business, this often meant that most claims were not lodged in the year the event occurred, but at some time in the future, even decades after an event occurred. Insurers offered a much cheaper product, which only covered claims incurred *and* made in the year of policy cover, which doctors later discovered, often left them with uninsurable risks when they moved between medical indemnity providers. A detailed discussion on the operation of the industry and its different players at that time is provided in Chapter 9 of the PIR Final Report – see note 1: see especially paragraphs 9.3-9.39.

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risk general practitioners. In combination, these led to a significant rise in premiums overall and a move away from mutuality to risk-rated premiums, which saw an additional premium increase for some specialist doctors.

Unlike insurers, at that time, MDOs were not subject to Government prudential regulation[7]. Claims data was shrouded in secrecy and the quality of the available information on both incidence and cost of claims was poor, which made understanding what was driving medical defence contribution increases quite difficult. The medical profession expressed the view that it was driven by greedy lawyers and disgruntled patients, often with spurious claims. However, there was no publicly available data on claims incidence, the frequency of harm or the payments being made.

The Quality in Australian Health Care Study was designed to fill in one part of the picture – how many people were being harmed by healthcare, where that harm was preventable with what was known when the care was provided[8]. The relationship between the incidence of harm and the costs of premiums was teased out through surveys of the medical defence industry[9], actuarial estimations of medical indemnity liability (and conclusions about the need for prudential regulation)[10] and an examination of data from State and Territory Governments, undertaken as part of the work of the Professional Indemnity Review[11]. What was revealed was that there were much higher levels of harm than was subject to

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[7]   This changed in 2003, with the introduction of the *Medical Indemnity (Prudential Supervision and Products Standards) Act 2003*, which the Commonwealth Government introduced in response to the provisional liquidation of United Medical Protection in 2002.

[8]   The main study was preceded by a Feasibility Study conducted by the Australian Institute of Health and Welfare to see if Australian medical records were adequate to support the medical records review of the Harvard Study. See - Review of Professional Indemnity Arrangements for Health Care Professionals. *Report on the feasibility study of an Australian hospitals' adverse health care incidents study*. Prepared by Roy Harvey and John Goss, Australian Institute of Health and Welfare. December 1992 Commonwealth Department of Health, Housing and Community Services, Canberra (The Feasibility study).

[9]   Review of Professional Indemnity Arrangements for Health Care Professionals. *Survey of medical defence organisations*. Prepared by Statistical Consultancy, Australian Bureau of Statistics. April 1993 Unpublished material.

[10]   Review of Professional Indemnity Arrangements for Health Care Professionals. *Report on medical professional indemnity arrangements*. Prepared by John Walsh and Jann Skinner, Coopers & Lybrand Actuarial and Superannuation Services Pty Ltd. March 1994 Commonwealth Department of Human Services and Health, Canberra.

[11]   PIR Final Report – see note 1, paragraphs 2.94-2.103.

consideration by the MDOs. The small number of claims they received and the even smaller number where a payment was made were the so-called "tip of the iceberg" of patient harm, both in terms of costs and human suffering. Most of the costs were not borne by doctors through their MDOs or by public hospitals. Costs were mainly falling on harmed patients and their families through their personal resources, and on the community, through tax-funded income support, disability, health and accommodation services.[12]

2.   The Quality in Australian Health Care Study and beyond

The Professional Indemnity Review conducted a feasibility study with the Australian Institute of Health and Welfare to ensure that the quality of Australian health records was adequate to support the study and to test whether the Harvard study methodology would work in Australia[13]. The Feasibility study showed that only the most recent records were of sufficient quality to support the needs of the main study. States and hospitals saw this initially as a barrier to participation in the main study, because the period between the study and the records would have been within the statute of limitations (which was between 3-6 years in different Australian jurisdictions).

The risk of litigation arising from data on patient harm gathered within the statute of limitations period was also emerging as an issue from the pilot work on incident monitoring. Any delay in data collection beyond 3-6 years would have been useless to prevent timely action on known risks of harm. The Professional Indemnity Review oversaw the preparation of legislation to protect information gained from it and other quality improvement work being reviewed in any identifying manner and prevented it being subpoenaed by a court, through a declaration of specific quality assurance activities by the Commonwealth Minister for Health, under what is now Part VC of the *Health Insurance Act 1973 (Cth)*.[14] The public interest in openness and transparency in health was to be protected by the production of de-identified reporting of how the activity had improved

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[12]   The full explanation and account of this complex net can be found in the PIR's Final Report – see note 1, Chapter 6, especially, which deals with meeting needs arising from compensable harm.

[13]   The Feasibility Study – see note 8.

[14]   The legislation was passed in 1992 as the *Health Insurance (Quality Assurance Confidentiality) Amendment Act 1992*.

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patient safety. While this legislation remains in place and continues to be used, the Commonwealth Government has not been diligent in requiring public reporting of declared quality assurance activities. After the publication of the results of the declared activities undertaken by the Professional Indemnity Review, most of the declared activities have remained completely hidden from public view.

A consortium from the University of Newcastle and Adelaide University tendered for the main study. Quite early, it became apparent that the Australian Study was detecting a higher level of "trigger events", which meant that almost twice as many records required doctor review. Additional funding was sought and approved by the Government to allow the study to be completed. The results were released by the then Commonwealth Minister for Health, the Hon Dr Carmen Lawrence in a Ministerial Statement to the House of Representatives on 1 June 1995[15]. This announcement, unfortunately, preceded the availability of the full study data and the publication of the study in a peer review format, which led to strong criticism from many, in both the academic literature and the medical profession[16].

The announcement by Dr Lawrence on 1 June 1995 saw the establishment of a Taskforce on Quality in Australian Health Care by the Australian Health Minister Conference (AHMC) at their next meeting in Alice Springs on 15 June 1995[17]. This sixteen-member Taskforce, chaired by Professor Bruce Armstrong (then head of the Australian Institute of Health and Welfare) included members from the Commonwealth and State Governments, medical, nursing and healthcare administrator Colleges and healthcare consumers. An interim report was presented to Dr Lawrence in September 1995, and the Final Report of

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[15] Commonwealth of Australia. *Parliamentary Debates - House of Representatives Official Hansard*, No. 201 1995, Thursday 1 June 1995, pages 911-913.

[16] See eg, Weeramanthri T. The Quality in Australian Health Care Study (QAHCS) – A Review. 1996 *Health Information Management Journal*, June, volume 26(2), pages 94-96; Van Der Weyden MB. Politics and publishing: the Quality in Australian Health Care Study. 1995 *Medical Journal of Australia*, 6 November, volume 163(9), pages 453-454.

[17] This was reported in the ACT by the then Health Minister and Chief Minister, Kate Carnell, to the ACT Legislative Assembly on 22 August 1995: Legislative Assembly for the ACT. 1995 Week 5 Hansard (22 August), page 1245. Accessed at; http://www.hansard.act.gov.au/Hansard/1995/week05/1245.htm on 28 October 2016.

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the Taskforce was completed in June 1996.[18] The report included 56 recommendations, many of which replicated or built on recommendations from the Professional Indemnity Review Report.

AHMC considered the Taskforce Report in October 1996, and agreed to its release without endorsing action on any of its recommendations[19]. The Ministers also decided to create a national expert group to report to them by March 1997, to prepare proposals for the 1997-98 Budget, and to accept the Harvard University offer to compare data, with the expert group overseeing this further study. After some delays, the Government established the four and later five-member National Expert Advisory Group on Safety and Quality in Australian Health Care (NEAG), which met first on 26 May 1997. Its Interim Report[20] was finalised in May 1998 for presentation to AHMC in July 1998, where the recommendations of the Interim Report were endorsed in principle, and each jurisdiction agreed to ensure action on specifying "performance standards outlining expected safety and quality enhancement achievements' in that jurisdiction. As well as recognising the need for "a national commitment to improving the safety and quality of the Australian healthcare system", the five key action areas identified by the Interim Report were:

- Providing appropriate and accessible consumer health information;
- Providing better frameworks for healthcare organisations to manage quality of care through their organisation;
- Improving systems for self-assessment and peer review by all clinical service providers;
- Encouraging learned colleges, professional associations, and medical and nursing administration to actively ensure quality performance through ongoing certification programs;
- Strengthening the quality focus of organisational accreditation processes through requiring organisations to demonstrate mechanisms for quality enhancement[21].

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[18]   Taskforce on Quality in Australian Health Care. *The Final Report of the Taskforce on quality in Australia health care*. June 1996 Australian Health Ministers' Advisory Council, Canberra (Taskforce Report 1996). The Report also includes the Interim Report in Appendix 4, page A4.

[19]   Taskforce Report 1996 – see note 18, page iii (Foreword).

[20]   National Expert Advisory Group on Safety and Quality in Australian Health Care (NEAG). *Commitment to Quality Enhancement – the Interim Report of the National Expert Advisory Group on Safety and Quality in Australian Health Care*. April 1998 NEAG, Canberra (NEAG Interim Report 1998)

[21]   NEAG Interim Report 1998 – see note 20, paragraph 25, page 6.

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Health Ministers also agreed that:

> There is a need for national commitment, in partnership with clinicians, to health care safety and quality improvement and … there are some safety and quality issues which are best dealt with at a national level.[22]

They therefore asked the NEAG to "consider and make recommendations on ways which national coordination of efforts to improve health care safety and quality can best be achieved within current organisational and financial frameworks" and to report back to the Australian Health Ministers Advisory Council (AHMAC) in March 1999 for consideration by Ministers in July 1999[23]. The NEAG conducted 29 consultations and received 115 submissions between September and December 1998[24]. The second of four recommendations in the NEAG Final Report dealt with national efforts and stated:

> That Health Ministers support the need for national actions for safety and quality enhancement in the following areas:
> - strengthening the consumer voice;
> - fostering best clinical practice;
> - learning from incidents, adverse events and complaints;
> - developing frameworks for quality improvement and management;
> - developing information systems to support quality; and
> - education and training for safety and quality improvement.[25]

Another part of the NEAG's work related directly to the results of the Quality in Australian Health Care Study and scepticism by the then Minister for Health Dr Wooldridge about the validity of the results. The Australian study appeared to show a significantly higher level of patient harm (16.6% of admissions involved an adverse event) compared to the earlier Harvard Study (3.7%) and the contemporaneous Utah Colorado Study (2.9%). The

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[22]   National Expert Advisory Group on Safety and Quality in Australian Health Care (NEAG). *Implementing Safety and Quality Enhancements in Health Care – National Actions to support quality and safety improvements in Australian health care. Final Report to Health Ministers from the National Expert Advisory Group on Safety and Quality in Australian Health Care.* July 1999 NEAG, Canberra (NEAG Final Report 1999): Appendix 1, page 27: Extract from the Minutes of the Australian Health Ministers' Conference, 30 July 1998.

[23]   NEAG Final Report – see note 22.

[24]   NEAG Final Report – see note 22: Appendix 2, pages 29-42.

[25]   NEAG Final Report – see note 22: page ii, Recommendation 2.

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approach by Harvard University to more closely examine these differences was overseen by the NEAG. In the end, the comparison was undertaken using the Australian Study and the Utah Colorado study because they were contemporaneous, thus reducing the confounding factors.

Two published studies arose from this work: one comparing the context, methods, casemix, population, patient and hospital characteristics of the Australian study and the Utah Colorado study (UTCOS)[26], the other comparing reviewer behaviour and quality of care[27]. Methodological and scope differences reduced the rate variation significantly, but there was still a two to threefold difference in the rate of adverse events. The second study showed that while the Australian study and UTCOS had similar rates of death and significant disability, there were 6-7 times more minor injuries reported in the Australian study. The researchers hypothesised that UTCOS had asked doctors to identify incidents of negligence, and this excluded many types of preventable harm from their mind sets. An example of this was the incidence of pressure injuries acquired in hospital (sometimes called "bed-sores" in lay terms). The reviewers found the data on the incidence of hospital acquired pressure injuries was similar in the US and Australia at the time, but in the Quality in Australian Health Care study, there were 41 identified cases, compared to just one in UTCOS. The hypothesis was that doctors did not attribute pressure injuries to negligent healthcare, but they did consider them to be preventable with appropriate quality normal care.

3.   The Australian Council, then Commission, for Safety and Quality in Health Care

Another NEAG recommendation was the creation of the Australian Council for Safety and Quality in Health Care to move forward with nationally co-ordinated reform in the areas

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[26]   Thomas EJ. Studdert DM. Runciman WB. Webb RK. Sexton EJ. Wilson RM. Gibberd RW. Harrison BT. Brennan TA. A comparison of iatrogenic injury studies in Australia and the USA I: context, methods, casemix, population, patient and hospital characteristics. 2000 *International Journal for Quality in Health Care*, October, volume 12(5), Health module, pages 371-378.

[27]   Runciman WB. Webb RK. Helps SC. Thomas EJ. Sexton EJ. Studdert DM. Brennan TA. A comparison of iatrogenic injury studies in Australia and the USA II: reviewer behaviour and quality of care. 2000 *International Journal for Quality in Health Care*, October, volume 12(5), Health module, pages 379-388.

requiring national action, as identified above by the NEAG. This was approved by Ministers in August 1999 and was established on 21 January 2000[28].

At this stage, the Australian Government had had extensive data on the areas of risk and harm to patients available to it for 5 years from the Quality in Australian Health Care Study. Despite this knowledge and repeated confirmation of the need for action from its own advisers, nothing had been done to address the issues identified except to create a series of government committees to decide if there was a problem that needed action. Each of these bodies spent 18 months to two years looking at the data from the Australian study, consulting with stakeholders and looking at the work of the body or bodies previously tasked by Government to look at the same issue. Each determined that urgent and significant action was needed. International attention to the issue came with the release of the Institute of Medicine's Report *To Err is Human* on 29 November 1999 and increased the call for urgent action across the world.

Despite being extremely well-placed to be an international leader in tackling iatrogenic patient harm, the Commonwealth Government essentially marked time, with action only commencing after the formation of the Council in January 2000. The Council, headed by surgeon Professor Bruce Barraclough, operated from 2000-2005. It was a somewhat unwieldy creation, with 27 Council members, an Executive of 8, a significant number of working and advisory groups (13 in August 2004) and a staff of up to 20. Its original term was 5 years, but this was extended to 6 years, and its budget over that time was $55 million. The Council's work was designed to complement the work of States and Territories through their Quality Improvement and Enhancement Practices and plans, required to access $660 million funding under the Australian Health Care Agreements 1998-2003.

In 2004, AHMC sought a review of the Council and its work. It also asked the reviewers to develop proposals for future governance arrangements, including how to achieve national leadership and to identify priority areas for national action for transforming healthcare

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[28]   Australian Council for Safety and Quality in Health Care. *Safety First – Report to the Australian Health Ministers' Conference.* 27 July 2000 Safety & Quality Council, Canberra: Attachment B, page 15.

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safety and quality in Australia. This Review was undertaken by Ron Patterson, the then New Zealand Health and Disability Commissioner and a team of 5 Australian senior health administrators from the Commonwealth and 4 states, with a reporting date of the AHMC meeting of July 2005. While the Review found that progress had been made on national leadership and high level policies, many issues were raised, and the Review reported that:

> It was asserted by many that there is little evidence that Australia has made any measurable progress in improving safety and quality since the Quality in Australian Health Care Study. The need for measurement was an important issue in its own right, with stakeholders pointing to the lack of coordinated collection and analysis of relevant data to measure the progress of safety and quality improvement on a national basis[29].

The Council's size and mechanisms were found to be cumbersome and its large work program not well integrated with work being done by other stakeholders. It had no powers of compulsion, so any standards set by it were only voluntary. The Review noted that stakeholders considered that "there remains an unacceptable level of risk in the health system", but widespread support for a "broader focus on quality across the health care system"[30]. This commentary was provided 10 years after the Quality in Australian Health Care Study, just after I had started work on the thesis.

Over the first period of that decade, I continued my personal, professional and advocacy interest in patient safety. Initially, as a carer of my father, through his final illness in the period 1996-1997 immediately after completing the Professional Indemnity Review(PIR), I saw many of the kind of adverse events I had discussed in the PIR's Final Report happening to my father and other people around me in various health services. This made achieving patient safety action a strong personal driver for me, as I saw very directly the anguish that could occur and the harm tolerant nature of the hospital system. Subsequently, my engagement in the developing patient safety work in Australia occurred through various projects, involving doctors, midwives, consumers, consumer organisations, medical colleges and medical organisations.

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[29] Review of Future Governance Arrangements for Safety and Quality in Health Care. *National Arrangements for safety and quality of health care in Australia – the Report of the Review – Final Report.* June 2005 (Paterson Report 2005). Presented to the AHMC Meeting 28 July 2005 – Agenda Item 1.11 – Attachment 1 (Issued 25 July 2005): paragraph 2.2.2, page 9.

[30] Paterson Report, see note 29: at page 9.

My engagement included the development of a Patient Safety Action Plan for my home jurisdiction, the ACT[31]. This work, which had commenced in May 1998, was used to provide ACT compliance with the Australian Health Care Agreement 1998-2003[32]. Later, I also became engaged as a member of the Australian Quality and Safety Council's Consumer Reference Group and then its replacement Advisory Group. At the grass roots level, I became a consumer member on local Quality of Care Committees and a Consumer Reviewer using the Root Cause Analysis methodology. I also worked as a volunteer Health Policy Adviser for the ACT Council of Social Services and the Australian Council of Social Services, both of which included lobbying for action on the patient safety agenda. As a Board member of the Consumers Health Forum of Australia, I was also heavily engaged in the patient safety and quality agenda.

The next decade, during which I was working on this thesis, saw the creation of the Australian Commission on Safety and Quality in Health Care on 1 January 2006, initially as an unincorporated body managed by all Australian governments. Following recommendations from the National Health and Hospitals Reform Commission[33], the Commission was established by statute in 2011 through Chapter 2 of the *National Health Reform Act 2011(Cth)*. Among other things, it was provided with powers to compel compliance.

4.   The 2001-2002 Medical Indemnity Crisis

However, it was in 2001 (before I enrolled in my PhD) that my involvement in the medical indemnity and patient safety policy area again increased. The Australian government had not acted on most of the recommendations of the Professional Indemnity Review, particularly in regulation of the medical defence industry. By late 1999-2000, there was

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[31]   Tito F. *A Patient Safety Action Plan for the ACT – Final Report.* Prepared by Enduring Solutions for ACT Health and Community Care. February 1999, Canberra.

[32]   In the ACT Australian Health Care Agreement, the details of the required Strategic Plan "to advance quality improvement and enhancement of public hospital services" were set out in Clauses 29-30, with the financial arrangements in Clause 36.

[33]   National Health and Hospitals Reform Commission. *A Healthier Future for All Australians – Final Report of the national Health and Hospitals Reform Commission.* Report No. P3-5499. June 2009.

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growing concern among both governments and doctors about the financial position of United Medical Protection (UMP), which was the main MDO in New South Wales and the Australian Capital Territory (ACT). The then ACT Minister for Health, the Hon Michael Moore, who was chairing AHMC at that time, sought support from Health Ministers around Australia to a new examination of the issues in mid 2000. In January 2001, the Australian Health Ministers' Advisory Council, chaired by Dr Penny Gregory, then Chief Executive of ACT Health, created the AHMAC Medical Indemnity Working Group, to which I was appointed Principal Consultant. The Council's work was to be focused on five issues:

- options to provide sustainable solutions to address long-term care costs for those involved in healthcare litigation;

- draft medical indemnity industry standards;

- reducing the administrative and legal costs associated with healthcare litigation;

- a model for the collection of national data on health-care negligence cases; and

- assessment of the need for a national regulatory regime for medical indemnity insurance

The year of 2001 brought a succession of unforeseeable but devastating blows for the Australian medical defence industry, some parts of which were greatly exposed because of their own high-risk financial actions. This included the failure of the HIH Insurance Group on 15 March 2001 (which held almost $100 million of three of the Australian MDOs "re-insurance" liability) and the contraction of the international reinsurance market following the tragedy of 11 September 2001[34]. These impacts were compounded by NSW legislation to reduce litigation costs, which brought many unreported claims to fruition to protect the potential claims from exclusion. Changing accounting standards brought matters to a head when the directors of the largest MDO in Australia at the time (United Medical Protection) sought to place the organisation in voluntary liquidation on 27 April 2002[35].

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[34] The first national AHMAC Workshop on National Standards and Regulation of the Medical Defence Industry was held in Sydney on 12 September 2001, and those in attendance watched with the rest of the world as the events of 9/11 unfolded, not understanding at the time, the likely implications of these horrific events on the work being undertaken to make the Australian MDO industry more secure.

[35] For a detailed explanation of these event, see Tito Wheatland F. Medical Indemnity Reform in Australia: "First Do No Harm" 2005 *Journal of Law Medicine and Ethics*, volume 33(3), Health Module: page 429-443.

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This was a period of high drama, and rapid action, with the Commonwealth Government shifting many of the costs of medical negligence onto tax-payers through a range of measures[36], in a frantic attempt to prop up United Medical Defence and other MDOs[37]. The original estimated cost of this package was $560 million over 4 years, with the then Prime Minister John Howard claiming that taxpayers would only fund about $45-$50 million per year[38]. Despite these assurances, the nature of the package meant that additional costs will continue to be met by taxpayers far into the future. For example, in 2015-16 the actual amount paid out under the *Medical Indemnity Act 2002* was $88.7 million[39], with a 4-year estimate from 2016-2020 of $404.3 million[40]. In the eleven years between 2004-2015, the cost of payments made under the *Medical Indemnity Act 2002* has totalled more than $1.16 billion dollars[41]. The annual average cost to the Commonwealth Budget has been $96.8 million per year over the 12 years between 2004-2016.[42] In 2014, the National Commission of Audit suggested cessation of these schemes due to market recovery, high industry profits, relatively small number of beneficiaries under the schemes and the high costs of administration, but to date this has not occurred[43]. However, at the time, doctors (and politicians) saw the support package as crucial to the future of medical practice, but

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36   The package was modified multiple times between 2002-2004, almost always to the benefit of the medical profession and the medical defence industry. For details of the package of reforms at various times, there are several reports of reviews which outline them. See, eg, Medical Indemnity Review Panel *Affordable, secure and fair – Report to the Prime Minister.* 10 December 2003; Medical Indemnity Review Panel. *Achieving stability and premium affordability in the Australian medical indemnity marketplace*. 2007.

37   See Tito Wheatland 2005 – at note 35: page 437-438. The legislative support package remains in place today.

38   Medical indemnity rescue package announced. *The Age*, 23 October 2002: accessed at http://www.theage.com.au/articles/2002/10/23/1034561538517.html on 29 October 2016.

39   The 2016-17 Health Budget Papers disclosed a total cost for the administration of the Medical and Midwifery Professional Indemnity Scheme. Including its own administrative costs as $94.6 million in 2015-16, with a four year forward estimate of $430.3 million.

40   Department of Health (Cth). *Budget 2016-17 Portfolio Budget Statements 2016-17, Budget Related Paper No.1*.10. Health Portfolio Program 4.5, page 88.

41   This figure is derived by adding the actual amounts disclosed on the various Commonwealth Government's Health Portfolio Budget Statements for the years since 2004.

42   This figure is derived by averaging the actual amounts disclosed in the Commonwealth Government's Health Portfolio Budget Statements – if the administrative costs attributed in the various costs to the program are added, the annual average cost is $98.5 million.

43   National Commission of Audit. *Towards Responsible Government. Appendix to the Report of the National Commission of Audit – Volume 2*. February 2014 Commonwealth of Australia, Canberra. Accessed at http://www.ncoa.gov.au/report/docs/appendix_volume%202.pdf on 29 October 2016: Section 10.16 Medical Indemnity.

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few considered the relationship between medical indemnity and the need for concerted action on patient safety. As discussed later, only the Legal Process Working Group from AHMAC drew the connections in its work.

The Government also took strong regulatory action in relation to the financial management of MDOs, as recommended 7 years before in the Professional Indemnity Review's Final Report. Despite action on most of the AHMAC Medical Indemnity Working Group terms of reference in the manner recommended by the end of 2003-2004, the more integrated package proposed by the AHMAC Legal Process Reform Group[44] did not have the same success. Its "package" made conscious links between the safety and quality agenda of the Quality and Safety Council and the actions of state and territory governments, with the four purposes set out as:

- To improve patient safety and minimise the likelihood of patient injury;
- To reduce the need to litigate and encourage early finalisation of disputes;
- To provide fair compensation to those injured by medical negligence; and
- To ensure affordable and sustainable premiums.

Legislative changes that were to support the quality and safety initiatives were detailed in Chapter 4 of the Options Paper, and can be summarised as follows:

- creating incentives and encouraging practices that minimise the incidence of harm to patients arising from healthcare, like greater openness and truth-telling to patients;

- creating an environment where the health system learns from its mistakes and takes systemic responsibility; and

- ensuring that there are adequate systems for dealing with deliberately or recklessly unsafe care or systematically poor performance in the health system.[45]

The AHMAC Legal Process Reforms Group work occurred at the same time as the Ipp Review of the Law of Negligence which was created by the then Commonwealth Attorney General Helen Coonan. This Review had limited but extremely detailed terms of reference.

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[44]   See eg Australian Health Ministers Advisory Group (AHMAC) Legal Process Reform Group *Responding to the Medical Indemnity Crisis: An integrated reform package*. Chaired by Professor Marcia Neave. August 2002. (AHMAC Legal Process Reform Group Report 2002) was the writer and researcher for this Paper.

[45]   AHMAC Legal Process Reform Group Report 2002 - see note 44, page 12.

Its preamble commenced with a statement that "the award of damages for personal injury has become unaffordable and unsustainable as the principal source of compensation for those injured through the fault of another". The review was given a very short time frame from July 2002 to September 2002, but in the words of one of its members, it had an impact because it was "politically salient"[46]. Despite the lack of empirical evidence to support their task[47], the Panel had been asked to examine "a method for the reform of the common law with the objective of limiting liability and quantum of damages arising from personal injury and death".[48]

This period of intense review activity saw a wide range of legislative changes that had been recommended in the Professional Indemnity Review, in the AHMAC Medical Indemnity Working Group and the Ipp Review. It also saw the extension of some of the tort limitations originally introduced in NSW in 2001 under the *Health Care Liability Act 2001 (NSW)* and significant legislative changes in all jurisdictions (albeit with varied outcomes), because of Ministerial agreements to act to address the "public liability crisis" and the recommendations of the Ipp Review.[49]

The public attention given to this process paid little or no attention to the related need to address the high levels of harm still occurring as part of healthcare as an integral part of cost containment. Generally, in reform of compensation law, the public policy priority is first, safety and prevention of the incidence of harm, then rehabilitation to reduce disability

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[46]   Cane P. Reforming Tort Law in Australia: A personal perspective. 2003 *Melbourne University Law Review*, volume 27(3), pages 649-676.

[47]   Review of the Law of Negligence. *Review of the Law of Negligence Final Report*. September 2002 (Chair: DA Ipp, Members: P Cane, D Sheldon, I Macintosh). 2002 Canprint, Canberra. (Ipp Review Final Report 2002) The Review was driven by concerns about the cost and availability of public liability insurance, in the shadow of the collapse of HIH Insurance Pty Ltd. The Review team acknowledged that the data to support these concerns and various solutions was limited and that instead, they based their recommendations on what they perceived as fair and what appeared to be "widely acceptable in the community at large": see paragraphs 1.38-1.40, page 32.

[48]   Ipp review Final Report 2002 – see note 47, Terms of Reference, pages ix-xi. Many of the terms of reference specified solutions to be developed, rather than identifying if there was a real issue. In combination with the extremely short time frame of less than 3 months, this made any full exploration extremely difficult.

[49]   A detailed summary of all the legislation is included in the report released by the then Commonwealth Assistant Treasurer, Senator Helen Coonan in February 2004. Commonwealth Department of the Treasury. *Reform of liability insurance law in Australia*. February 2004 Treasury, Canberra.

Introduction

when harm occurs and finally compensation as the residual cost, when both safety and rehabilitation have failed or have been achieved as much as practicable. The Professional Indemnity Review Final Report and the AHMAC Legal Process Reform Group saw these three areas as important parts of an integrated solution to the human and financial costs of preventable patient harm in healthcare[50]. However, the scope of most of the other initiatives were limited to the compensation end of the policy continuum. At a practical level, nothing was done by this set of reforms to address patient safety or the costs associated with preventable patient harm.

B.   *The position of this thesis*

The research question underpinning my thesis was conceived in this context in 2003. There had been a strong push by doctors and the various Australian governments to reduce the cost of medical indemnity, in the context of broader tort reform in the period 2000-2002. Eight years had passed since the release of the Professional Indemnity Review and the Quality in Australian Health Care Study. The major response of the various federal Governments had been to create a series of committees, where only limited actions had occurred as discussed above. While doctors had been very vocal about the need for Government to contain their indemnity costs, there had been silence about the corresponding need to reduce preventable patient harm, the occurrence of which underpinned tort liability. While I had continued to work at both my local level and the national and College level to address the harm which had been revealed in the results of the Quality in Australian Health Care Study, many of the projects appeared to be dependent upon the presence of champions and their effects did not seem very durable. It was extremely frustrating to see the limited impact of the Study's ground-breaking information. The increased awareness appeared to have had so little clear and measurable impact.

This thesis emerged from the decade I had spent looking at patient safety, participating in major efforts, producing data, and seeing, in the end, little sustained change. The level of measurement of harm appeared almost frozen in the work of the Study. Having just

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[50]   PIR Final Report – see note 1: paragraphs 5.1-5.4.

emerged from the "tort reform" insanity of the early 2000s I came to my thesis with a picture of the damage that the tort system probably caused to patient safety efforts, both as a powerful distraction but also as an over-powering influencer. The professional and public discourses of the time stated that underreporting of instances of preventable patient harm and inaction on patient safety issues were principally caused by concerns of doctors about medical negligence and the tort system. Alongside this worldview were the apparently enthusiastic efforts of many compassionate doctors and other health workers all attempting to grapple with patient safety issues in their systems. Overall, there appeared to be a degree of complacency about the high level of patient harm, both at the clinical and policy level. This, in turn, produced a health system which was extremely harm tolerant, despite the affirmations that the basic ethical tenet of healthcare was to "first, do no harm".

C.   *Thesis methodology*

My thesis research started from the consequent question "If the principal driving ethic of medicine is to 'First do no harm', why was it so hard to identify and get action on preventable patient harm?" The first tranche of my research involved the analysis of the methodology and results of all the "adverse event" studies that had used retrospective case-note review methodology. and the earlier and later studies of harm using different methodologies, which are summarised in Tables 1.1 and 1.2 in Chapter 1 following. The studies were conducted across jurisdictions where the tort system operated alone, where the tort system operated in a limited manner and where there was no-fault compensation. Across all the studies, results differed, but they did not appear to differ consistently with the nature of compensation available. Rather, once it came down to matters of detail, the differences were explainable by reviewer behaviour and what was decided to be "in" or "out" in specific studies. [51] This and subsequent more specific studies discussed later showed that the reasons for inaction were much more complicated.

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[51]   This work was summarised in a separate unpublished Background Document by the thesis author. Tito Wheatland F. *Patient no longer – what we already know about preventable patient harm – Background Paper*. May 2008 Unpublished paper.

At that time, I began looking for alternative explanations – across the broad range of disciplines that had looked at medical mistakes and doctor behaviour: medicine, sociology of the professions, psychology and medical anthropology, medical education and the history of the professions, organisational theory and theories of change. I explored books, journal articles, policy reports, and theses. I also scrutinised studies that looked at how doctors recognised adverse events. These showed that it was quite difficult for doctors to consistently discern whether harm was preventable, what its causes were, and even whether an adverse had occurred. This research is considered in parts of Chapters 3 and 4. Looking at these bodies of literature and observing the progress of patient safety more broadly as a consumer advocate, I tentatively formed some thoughts that a plausible explanation was linked to how doctors saw themselves. There were many instances which indicated that recognition of error and consequent patient harm was anathema to a doctor's self-perception. This led to my first hypothesis: that patient harm and medical error constituted identity threats to a doctor's professional and often personal identity. This further led to me looking at the psychology and neuroscience involved with identity and threats to identity, the growing understanding in neuroscience of brain plasticity, as well as agency theory, moral reasoning and various other areas to do with doctors as patients and doctors self-care and mental health.

My research methodology also involved reading broadly across secondary sources (including various data sources, ranging from the Australian Bureau of Statistics and the Australian Institute of Health and Welfare, to specific collections on medical students). Using the focus of my original research question, I considered the relevant theories and evidence about the nature of what it is to be a doctor, the medical profession as a collective form of identity, human and social psychology, neuroscience, behaviour and a diverse portfolio of other areas described in the thesis. I also explored some subsidiary questions:

- why it might be that doctors often do not recognise when patient harm has occurred;
- why such harm is often not recorded in reporting system or identified in day to day care; and
- why action to reduce the unacceptably high level of harm to patients in healthcare is generally taking so long to achieve.

Introduction

This thesis is arranged around the provision of evidence for three hypotheses derived from the broad range of literatures that shed light onto some aspect of the thesis question. These hypotheses in summary are:

> **Hypothesis 1**: The occurrence of patient harm and medical error can be perceived psychologically by a doctor as a fundamental threat to his or her identity;
>
> **Hypothesis 2:** A serious threat to identity causes a range of psychological defences, often rooted in the biological responses of the brain to threats to existence, and these defences can make it hard for a doctor to recognise, identify or accept the risk of patient harm;
>
> **Hypothesis 3**: Elements of the Doctor Identity deny ordinary human psychological responses and physical limitations, and thus promote unrealistic self or group perceptions. This creates risks to both doctors and patients. Many of these risks may be avoidable through modifying these perceptions and developing more realistic self-and professional schemas.

My original motivation for the thesis was initially derived almost solely from the perspective of the protection of consumers, patients and families from unexpected negative outcomes in healthcare. However, in the end, it became clear that the doctor-patient relationship involved a much more complex dance of interlinked interests. The Doctor Identity appeared to be derived partly from medical professionalisation and partly from cultural stories the community tells about doctors. Equally the evidence showed that harm is also done to doctors. This includes harm caused through their education, training and professional identity formation. It also includes harm which comes from the unrealistic hope that patients have of perfect healthcare performance to protect them when they are most vulnerable. It also includes harm which comes from the systems put in place to deal with inevitable harm in healthcare and because of harm that occurs "on their watch".

The thesis concludes that the community and individual requirement of a compassionate and healing health system which delivers good outcomes for patients can be the same system requirement that maintains and enhances the wellbeing of doctors and other health professionals. Solutions which create this synergy are likely to come through an acknowledgement that many of the "good intentions" in patient safety actions have not

delivered what was expected, because the impact of harm on the Doctor Identity was not perceived or understood.

D.   An outline of this thesis

Chapter 1 shows that there has been significant knowledge available for a long time about the level of patient harm caused in healthcare. After almost 2 decades of effort directed mainly at a systems approach to preventing harm to patients in healthcare, there remain unacceptably high levels of patient harm. Such an approach has allowed more sophisticated analyses of care processes, that enable safer care delivery systems to be put in place. However, this thesis argues that the dichotomy in the medical and social discourse on patient safety between systems and individuals has been unhelpful. Systems are composed of people – their actions and inaction shape systems for good or ill. The current focus on "system only" responses sometimes appear to treat the system, as if it were an entity outside of the people who compose the system. This has meant that often methods that can influence the conduct and values of individual doctors and the medical profession have been downplayed. Given the high human and financial costs associated with preventable patient harm, funders – both public and private – have a high interest in looking at and evaluating other options, which may have a broader effect, to supplement efforts already underway at the system level.

Chapter 2 looks at why doctors are a useful focus for this thesis, rather than a broader focus on "healthcare culture". Doctors' behaviours and roles as individual clinicians working with patients, as leaders in healthcare teams, as teachers and trainers of the next generation of doctors and in the management and oversight of hospitals and health systems are all important for improving patient safety. When the Professional Indemnity Review looked for solutions to the high incidence of preventable patient harm in the 1990's, there was a great belief that taking a systems approach would lead to prompt and effective action to reduce the now evidenced incidence of harm. However, there is significant evidence that while this approach has been useful in some circumstances, it was insufficient on its own. This thesis puts forward an argument that the shared self-identity of individual doctors also had a large role to play in the lack of progress towards reducing the burden of preventable

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patient harm. This is what I refer to as the Doctor Identity. This term also includes the collective expression of that Identity in the medical profession as an identifiable social and occupational group. This thesis does not argue that this was a deliberate strategy of inaction or an intentional moral failure on the part of doctors – far from it. Rather, it argues that preventable patient harm deeply threatens the identity of doctors both individually and as a profession and thus brings other powerful personal and social psychological forces into play, which are often not recognised in the moment.

Chapter 3 provides a brief outline of the emerging understanding of human psychology and neuroscience as it relates to identity and specifically threats to identity. The field of neuro-psychology and our understanding of the links between our minds and bodies has grown exponentially over the two decades since the Quality in Australian Health Care Study was published in 1995. At an individual psychological level, evidence has accumulated about the autonomic and sub-conscious impact of a threat to someone's identity, about the human physiological responses to fear and its relationship to threats to identity, about the interwoven nature of reason and emotion, and about the long-lasting effect of shame and humiliation.

Chapter 4 then looks at the evidence of the relationship between preventable patient harm and the Doctor Identity – including why there is such poor reporting and why action may have been hampered once the problem was identified. It looks at how many of the human psychological processes and characteristics discussed in Chapter 3 provide a different explanation for some doctor behaviours. It also includes a case study of doctors and fatigue, as an example of the potential negative impact of unrealistic self-perception on patient safety.

The formation of the specific Doctor Identity through medical education and training is the subject of Chapter 5 and its consolidation and maintenance throughout the life of the doctor are outlined in Chapter 6. These last two chapters will explore how many typical experiences of doctors in their education, professional training and formation, and in living as a doctor in our society and in their "tribe", shape human neural pathways and result in

conflicting drives relating to the identification of and actions to reduce preventable patient harm.

The last chapter of the thesis looks at the three hypotheses noted above and what research could be conducted to test these hypotheses. In some areas, it is argued that the precautionary principle dictates that, even though evidence of the highest level is not yet available, there is sufficient plausible evidence of a causal connection to human harm to require action. It also considers how this conceptualisation and understanding of the Doctor Identity might lead to different solutions to prevent patient harm. Some of these ideas could allow doctors to better fulfil their ethical commitment to the welfare of consumers, patients, carers and society, and thereby strengthen the relational context of healthcare. Some options may improve the well-being of doctors, medical students and trainees, through improved resilience and awareness. Options could also sustain and increase trust between doctors and patients through a more open, humble dialogue about the risks and benefits of healthcare.

This different understanding could provide the scaffolding to build a more accountable and transparent healthcare system: one which enacts many of the noble stated goals of doctors, the medical profession and hospitals, and one which knows, in a demonstrable way, if these are, in fact, being achieved.

Introduction

Chapter 1: Preventable patient harm

A.   Introduction

Preventable patient harm is recognised as a very significant health problem throughout the world, giving rise to high human and financial costs[1]. There has been evidence of such harm for a long time and large studies showing the size of the problem have proliferated over the past quarter of a century[2].

Despite this ever-growing body of evidence and calls for action, more than a decade of effort appears to have failed to significantly reduce preventable patient harm across the board. For example, a 2016 estimate of deaths from preventable patient harm places medical error as the third highest cause of death in the USA, behind cardiovascular disease and cancer[3]. Examples of excellence exist, where there has been a consistent and sustained reduction in preventable patient harm[4]. However, these tend to be limited in scope and reliant on individual champions. Efforts to expand these have often been less successful. The continued absence of comprehensive concurrent data on preventable patient harm

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[1]   Many of the studies documented later in this chapter in tables 1.1 and 1.2 provide support for this statement. The costs flowing from adverse events have been studies less, but some illustrative examples are Ehsani JP. Jackson T. Duckett SJ. The incidence and costs of adverse events in Victorian hospital 2003-2004. 2006 *Medical Journal of Australia,* 5 June, volume 184(11), page 551-555, which showed at that time, an adverse event added $6,826 to each admitted episode and total costs to the hospital of $460.311 million. For an examination of estimates of the full costs associated with adverse events see Runciman WB. Moller J *Iatrogenic Injury in Australia – a report prepared by the Australian Patient Safety Foundation for the National Health Priorities and Quality Branch of the Department of Health and Aged Care of the Commonwealth Government of Australia.* August 2001. This study estimated acute hospital costs were less than half the life-time costs of adverse events: see Table 4, page 23. Potential savings from addressing adverse events was estimated as exceeding $2 billion with 5 years. A more recent US study estimated adverse event medical costs as at least $19.5 billion and life time costs possibly $1 trillion annually: Andel C. Davidow SL. Hollander M. Moreno DA. The economics of health care quality and medical errors. 2012 *Journal of Health Care Finances*, Fall, volume 39(1), pages 39-50.

[2]   See Section C, in this chapter and Tables 1.1 and 1.2 for summaries of a selection of these studies.

[3]   Makary MA. Daniel M. Medical error – the third leading cause of death in the US. 2016 *British Medical Journal*, 3 May, volume 353, i2139 at doi: http://dx.doi.org.virtual.anu.edu.au/10.1136/bmj.i2139 .

[4]   See eg, Pronovost P. Wachter RM. Progress in patient safety: a glass fuller than it seems. 2014 *American Journal of Medical Quality*, volume 29(2), pages 165-169. An excellent example is Pronovost's Michigan Keystone ICU Project, which has seen 10 year sustained reductions in Central-line Associated Bloodstream infections in the ICU's in Michigan: Provonost PJ. Watson SR. Goeschel CA. Hyzy RC. Berenholtz SM. Sustaining reductions in central-line associated bloodstream infections in Michigan Intensive Care Units: A 10-year analysis. 2016 *American Journal of Medical Quality*, volume 31(3), pages 197-202.

remains a significant barrier to determining progress on known issues, to prioritising areas for action on current data and to promptly ascertaining the nature of emerging problems.

Much of the patient safety effort thus far has focussed on the system in which preventable patient harm occurs. This thesis accepts the importance of system factors in the causation and the prevention of harm. However, such a focus appears to have had a limited effect on the widespread prevention of patient harm. A focus on system factors may arguably result in diminished attention being paid to the role of individual people as actors in the occurrence of preventable patient harm and as agents in the prevention of such harm. In reality, all systems are made up of individuals. Doctors, nurses, administrators, patients are all individuals coming together in healthcare for a specific purpose. Actions of each of these individuals related to preventable patient harm occur in a system and in many cases, the actions constitute the system. In almost all situations involving preventable patient harm, "the system" and the actions of individuals within in it exist in a complex interrelationship.

Current approaches to patient safety have usually focussed on "the system". This thesis instead is concerned principally with the conduct of individuals, more specifically doctors, and their actions or inactions that result in preventable patient harm or its prevention. The thesis will look at how doctors understand their own conduct and how their conduct influences and shapes the systems in which they operate. The purpose of looking at the conduct of individuals is not to look for someone to blame in a moral sense. It is rather to explore the reasons why doctors act the way they do in relation to preventable patient harm and to consider how this is deeply linked to their identities as doctors. The thesis also looks at the collective expression of the Doctor Identity in the medical profession, and at the institutional impact this has within hospitals and healthcare.

One of the key hypotheses of this thesis is that the occurrence or risk of patient harm and medical error acts as a fundamental threat to the identity of a doctor and to group identity of the medical profession. Normal human responses to identity threats make it difficult for doctors to recognise and be proactive in relation to these issues. Further, the thesis suggests that alternative public policy options may result from exploring how to reduce the

psychological impact of threats to individual and group identity, compared to a purely system-focussed paradigm.

B.   *Language and patient harm*

In much of the medical literature, preventable patient harm is called by the technical term "adverse event", which was used in the various retrospective medical record review studies discussed below. In general, this term is defined as:

> an unintended injury or complication which results in disability, death or prolonged hospital stay and is caused by healthcare management.[5]

The term has come to be used more broadly in medicine and the patient safety policy discourse as synonymous with unexpected patient harm. In this thesis, the term "adverse event" is used in the description of the various study results to ensure that the technical role of the phrase in these studies is honoured. However, its use is limited to this context because, as a term, I believe it creates ambiguity for most readers and its apparent "conceptual emptiness" serves to disguise what is being discussed in the public discourse about patient harm.

This thesis argues that the culture of medicine is derived from the beliefs and cultural understandings of individual doctors about their role and their identity. In turn, it is argued that this can act as an impediment to patient safety, through powerful cultural stories that are harm-denying, harm-excusing and in the end, harm-tolerant. In such a context, it is understandable that the phrase "adverse event" was not limited to these studies, but found broad acceptance in medicine. It is a phrase which, at first glance, is not connected to a person at all, as either a causal vector or as someone harmed. The apparently benign and impersonal phrase hides its formal definition and what is being discussed. Many patients and some doctors are not aware of the formal meaning of the phrase used in the various studies: that is, preventable harm to a patient caused by people and processes designed to

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[5]   Wilson RMcL. Runciman WB. Gibberd RW. Harrison BT. Newby L. Hamilton JD. The Quality in Australian Health Care Study. 1995 *Medical Journal of Australia*, volume 163, pages 458-471: at page 459 (Grey Box).

provide healthcare, and which results in the patient's death, disability or a prolonged hospital stay.

Language can connect or disconnect actions and consequences. While sometimes euphemistic language can be used to be less emotive or to appear more objective, it may also result in a disconnection from ethical or moral meanings. This in turn can impact on how someone engages with issues that may require an exercise of their moral agency (that is, their internal incentive to do the "right" thing).[6].

In the development of a moral or ethical self, human beings adopt standards of right and wrong that serve as guides and deterrents for conduct. In this self-regulatory process, people monitor their conduct and the conditions under which it occurs, judge it relation to their personal, moral or social values and perceived circumstances, and regulate their actions by the consequences they apply to themselves. They do things that give them satisfaction and a sense of self-worth, and they refrain from behaving in ways that violate their personal and social standards because such conduct will bring self-condemnation[7] or condemnation from peers or their community[8]. A strong positive professional and ethical norm in medicine is to do no harm to patients. The language of "adverse events" camouflages the occurrence of patient harm, by hiding the object of the harm and the agent(s) of it. Instead of the term overtly triggering a doctor's self-regulatory system to want to stop this harm occurring, the language of "adverse events" can fail to trigger the self-regulatory system at all. The agentless passive voice also creates the appearance that negative acts, omissions or outcomes are the work of nameless forces rather than people.[9]

In medicine when an "adverse event" is said to have occurred in medicine, the term "adverse event" can obscure the meaning of what has occurred not only to the patient but

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[6]   Bandura A. Barbaranelli C. Caprara GV. Pastorelli C. Mechanisms of moral disengagement in the exercise of moral agency. 1996 *Journal of Personality and Social Psychology*, volume 71(2), pages 364-374: see page 364.

[7]   Bandura A. Selective exercise of moral agency. Chapter in Thorkildsen TA. Walberg HJ. (editors) *Nurturing morality*. 2004 Kluwer Academic, Boston, pages 37-57: at page 37.

[8]   Harris N. Reassessing the dimensionality of the moral emotions. 2003 *British Journal of Psychology*, volume 94(4), pages 457-473.

[9]   Bandura A. 2004 – see note 7: pages 40-41.

also to the doctor. For example, the likely impact on a doctor's moral agency of the thought that "An adverse event occurred in the operating theatre", will be different from that of thinking "The patient I was operating on today died when I accidentally cut his aorta". While it is also arguable that euphemistic language is used to protect grieving families, the phrase "adverse event" provides little useful information for them and they may see it as the doctor or hospital "hiding" something[10]. The doctor may feel that the adverse event explanation has discharged any ethical obligation to explain why the death or unexpected patient outcome occurred or the circumstances surrounding it[11]. A 2006 study by Iedema and others of the language of critical incident reporting provides examples of various degrees of minimisation and distancing.[12]

An "adverse event" explanation may also leave the patient's family bewildered because they don't know what it means. Sometimes they may fear that things are being hidden from them[13]. Alternatively, language which reduces their understanding of what actually occurred can mean they remain unaware of the contribution healthcare made to the harm done to their loved one. If they do not understand that the death or harm was preventable and caused by healthcare, they may also be unable to take any action to address their needs eg to complain or seek compensation, where appropriate[14].

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[10]   Gallagher TH. Waterman AD. Ebers AG. Fraser VJ. Levinson W. Patients' and Physicians' attitudes regarding the disclosure of medical errors. 2003 *Journal of the American Medical Association,* 26 February, volume 289(8), pages 1001-1007: at page 1003.

[11]   Gallagher TH. et al 2003 - see note 10: the results of this study showed that doctors "disclosed the adverse event" but "avoided stating that an error occurred, why the error happened, and how recurrences could be prevented" all of which were matters that patients saw as vital to proper disclosure. See results section and Tables 2, page 1003, comparing the views of doctors and patients.

[12]   Iedema R. Flabouris A. Grant S. Jorm C. Narrativizing errors of care: critical incident reporting in clinical practice. 2006 *Social Science and Medicine*, volume 62, pages 134-144: see especially, 'Analyzing critical incident reports', incident #27 at page 138.

[13]   Iedema R. Sorensen R. Manias E. Tuckett A. Piper D. Mallock N. Williams A. Jorm C. Patients' and family members' experiences of open disclosure following adverse events. 2008 *International Journal of Quality in Healthcare*, volume 20(6), pages 421-432.

[14]   The 1984 Harvard Medical Practice Study showed, among other things, that there was a significant mismatch between cases of adverse events involving medical negligence and litigation. The ratio of incidence of negligent adverse events to litigation was 7.6 to 1. However, when those cases where litigation was initiated were compared to cases where negligence had been found on medical record review, the difference was even greater, with the majority of cases where litigation commenced not being found to show negligence. Only 1.53% of cases of negligent care resulted in a claim. Localio RA. Lawthers AG. Brennan TA. Laird NM. Hebert LE. Petersen LM. Newhouse JP. Weiler PC. Hiatt HH. Relation between malpractice claims and adverse events due to negligence – results of the

Therefore, in this thesis, I will generally use the phrases "preventable patient harm" and "patient harm". This terminology brings together the concepts in the "adverse event" definition in a phrase which is likely to be understood more readily in the public discourse around patient safety. The phrases seek to label the issues of concern in this thesis more openly. The thesis is concerned with the impact of actions and inaction in healthcare by doctors on patients, who are users and consumers of its services. It is concerned with harm to these people – whether it be death, disability or prolongation of incapacity. Its special concern is where this negative impact on a patient is already known to be preventable. However, as will be noted at different points, all unexpected patient outcomes need to be detected and reflected upon, whether the consequences are known to be preventable or not, and sometimes this term will be used.

C. *The problem of preventable patient harm*

1. **A brief history**

Preventable patient harm has existed within healthcare throughout history. For example, Pliny the Elder in his *Natural History* written in the first century AD, complained that:

> …there is no law in existence whereby to punish the ignorance of physicians, no instance before us of capital punishment inflicted. It is at the expense of our perils that they learn, and they experimentalize by putting us to death, a physician being the only person that can kill another with sovereign impunity. Nay, even more than this, all the blame is thrown upon the sick man only; he is accused of disobedience forthwith, and it is the person who is dead and gone that is put upon his trial.[15]

This is not surprising perhaps, given the lack of understanding of the functioning of the human body and pharmacology, and false theories about the cause of disease, such as humoralism, which guided Western medicine from the 5th Century BC to the 19th Century.[16]

Harvard Medical Practice Study III. 1991 *New England Journal of Medicine*, volume 325 (4), pages 245-251.

[15]   Pliny the Elder. *The Natural History* (Bostock J. Riley HT. editors and translators) Book XXIX, Chapter 8. Pliny the Elder is said to have lived from 23-79AD.

[16]   Rosenberg CE. The Therapeutic Revolution. Chapter in Vogel MJ. Rosenberg CE. *The Therapeutic Revolution: Essays in the Social History of Medicine*. 1979 University of Pennsylvania, Philadelphia.

Despite the instructions of Hippocrates in his Epidemics that "the physician must … have two special objects in view regarding disease, namely, to do good or to do no harm"[17] the lack of accurate knowledge about both the workings of the body and the causes of diseases often resulted in poor outcomes for patients, especially where treatments were extreme.[18]

Similarly, healthcare institutions often caused a significant burden of mortality and morbidity in those who were treated there. For example, hospitals in the eighteenth and nineteenth centuries were generally places of such poor sanitation and environment that staying *out* of hospital often meant the difference between surviving and dying.   This was especially so for those who were more vulnerable, such as children. For example, Turner states that "the London Foundling Hospital in its first few years of existence provided accommodation for approximately 15,000 children of whom only 4,500 survived hospitalisation".[19] Unfortunately, even where data like this were collected, they did not motivate action to change these outcomes as the causes of disease and death were not understood and doctors who suggested that there may have been healthcare causation were often ostracised, as discussed in Chapter 6 below.

2.   Studies in the mid-20th Century

From the mid 1950's, considerable mainstream discussion about the hazards associated with modern medical care can be observed.[20] For example in 1957, Dr White Franklin, a paediatrician from St Bartholomew's Hospital London said, in an address to the Annual Meeting of the British Medical Association:

> So we see that all the powers mobilized for healing – the drug, the prophylactic, the apparatus of diagnosis, the hospital, the out-patient clinic, the ancillary personnel – all carry also the power to damage. And in the end of it all the doctor and the

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[17]   Hippocrates *Of the Epidemics, Book 1*, Section II, Second Constitution, Paragraph 5. Written around 400 BC.

[18]   Sharpe VA. Faden AI. *Medical Harm – Historical, conceptual and ethical dimensions of iatrogenic illness* 1998 Cambridge University Press, Cambridge: page 39.

[19]   Turner BS. Samson WC. *Medical power and social knowledge*. 2nd edition. 1995 Sage Publications, London: page 160.

[20]   See eg, Barr DP. Hazards of modern diagnosis and therapy – the price we pay – Frank Billings Memorial Lecture. 1955 *Journal of the American Medical Association.* 10 December, volume 159(15), pages 1452-1456; Moser RH. Diseases of medical progress. 1956 *New England Journal of Medicine*, 27 September, volume 255(13), pages 606-614.

patient face each other, two human beings prone to error, both with mankind's portion of fantasy and fear, one trying to be scientific, the other to be brave, each trying to fathom the other by questions and answer, but with the help of instinct and feeling as well as words. Small wonder that at times the patient is left the worse for the encounter with a "harmful disorder unwittingly induced in him by the inappropriate use of drugs or faulty management or treatment or because of the physician's examination, manner and discussion", or with, in two words, iatrogenic disease.[21]

There is a long literature from that same period onwards, which describes the nature and frequency of "iatrogenic" or medically caused harm[22], including a large number of "case studies" in medical journals cataloguing deaths and injuries arising from various medical treatments.[23] There were also a small number of more systematic studies of harm to patients arising from healthcare in various settings in the 1950s and 1960s, some of which are set out in Table 1.1. Many of these were prospective, observational studies, conducted in single institutions, and their results showed disturbingly high numbers of people harmed, as can be seen from the sample summarised in Table 1.1. While they show higher rates of adverse events than the later retrospective case note studies, their figures are closer to the modern prospective studies.

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[21]   Franklin AW. Iatrogenic disease in childhood – an essay in definition. 1958 *British Medical Journal*, 30 August, volume 2, issue 5095, pages 559-561.

[22]   See eg, Moser RH. *Diseases of medical progress: a survey of diseases and syndromes unintentionally induced as the result of properly indicated, widely-accepted therapeutic procedures.* 1959 Thomas Springfield (Illinois); D'Arcy PF. Griffin JP. *Iatrogenic diseases*. 1972 Oxford University Press, London.

[23]   A search of PubMed for the period before 1970 gives a good sample of the adverse events recorded in the literature.

Table 1.1: Early modern studies on preventable patient harm 1960-1986

Date of Study (duration)	Investigator	Method	Place	Inclusions	Exclusions	Coverage p=patients, a=admissions	Results
1960-1961 (8 months)	Dr E Schimmel (1)	Observations by participating house officer doctors	80 bed Yale University Medical Service of the Grace-New Haven Community Hospital	Untoward events, complications and mishaps resulting from acceptable diagnostic or therapeutic measures deliberately instituted in the hospital	Inadvertent errors of nurses or doctors, post-operative complications, non-specific psychiatric disturbances, adverse effects of previous treatments	1,014 p 1,252 a	240 "episodes" occurred to 198 patients; 110 minor effects, 82 moderate, 48 major with 16 ending in death
1964-1965 (8 months)	Dr W Reichel Chief Medical Resident (2)	Prospective observational study of 500 consecutive admitted elderly indigent patients by author, including chart and test review or autopsy results and county death certificates	Stanford Teaching Service of the San Mateo County General Hospital	Untoward responses caused by hospitalisation, including reactions to medications and procedures, physical injury, accident or unusual occurrence, hospital-induced major psychiatric de-compensation, hospital acquired infections, medical and nursing errors (including errors of omission) and inter-current disease conditions which developed in hospital eg pulmonary embolus, infarction, aspiration pneumonia, faecal impaction, decubitus ulcer, urinary retention and parotitis	must be a clear cause and effect between the care and the problem, where potentially harmful conditions did not cause harm	500 a: 214 male and 286 female Mean age 77.9 years	193 untoward responses and 44 inter-current disease incidents occurred in 146 patients - rate of patients adversely affected was 29.2%, and frequency of complications was 47.4%
1965-1966 (12 months)	Dr R Ogilvie (3)	Reports by medical staff, reports by nurses, plus any change in medication, diagnostic or therapeutic procedure was reviewed by RO	Public medical ward in Montreal General Hospital (McGill University teaching hospital)	"Adverse reaction to hospitalization" defined as any undesired or unintended consequence of investigation or care of the patient while in hospital	Failure to achieve expected therapeutic result, psychiatric disturbance or reactions present at admission	731 p: Mean age 57.0 years.	177 patients had one or more adverse reaction - there were 261 reactions recorded. Rate of patients adversely affected was 24.2%, and frequency of complications was 35.7%

Date of Study (duration)	Investigator	Method	Place	Inclusions	Exclusions	Coverage p=patients, a=admissions	Results
1979 (5 months)	Project Team headed by Dr K Steel (4)	Prospective study using patient charts during hospitalisation and immediately post discharge by project staff - data was abstracted using a 27-item instrument - classified complications into 549 categories and cases into 68 pre-defined causes	Two floors of a medical service at Boston University Medical Center teaching hospital - including 83 beds, coronary care unit, medical intensive care unit, metabolic unit and 2 general medical wards	Iatrogenic illness - defined as any illness resulting from a diagnostic procedure or any form of therapy and any harmful occurrence that was not a natural consequence of the patient's diseases. Multiple impacts relating to the one incident were only recorded as a single incident.	If there was even a slight reason to believe the condition related to the patients' underlying disease, it was excluded. Minor problems that resolved without specific therapy were excluded. Anything not documented, even if suspected. Cancer patients.	815 p:	290 patients had one or more iatrogenic illness - 497 occurrences were recorded. Rate of patients adversely affected was 35.6% and frequency of iatrogenic illness was 61.0% In 15 patients (1.8%), the iatrogenic illness contributed to their death. In 9% of admissions the incident was considered serious - either threatening life or producing considerable disability.
1986 (12 months)	Project team, headed by Dr A De La Sierra(5)	Prospective study of consecutive admissions, suspected episodes reported by residents, verified and collected by two study authors	Hospital Clinic in the Department of General Internal Medicine in Provincial, Barcelona, Spain	Based on Steel's definition - an adverse situation due to any diagnostic or therapeutic procedure, as well as those harmful events occurring during hospitalization that are not a direct consequence of the disease of the patient, but do have a specific aetiology		1,176 a: 599 males and 577 females	295 patients had one or more iatrogenic events - 367 events occurred. Rate of patients adversely affected was 25.1% and frequency was 31.2%. Two deaths and 19 incidents of life-threatening iatrogenic illness were recorded.

Notes to Table 1.1:

(1)   Schimmel EM. The hazards of hospitalization. 1964 *Annals of Internal Medicine,* January, volume 60(1), pages 100-110.

(2)   Reichel W. Complications in the care of five hundred elderly hospitalized patients. 1965 *Journal of the American Geriatrics Society*, volume 13(11), pages 973-981.

(3)   Ogilvie RI. Ruedy J. Adverse reactions during hospitalization. 1976 *Canadian Medical Association Journal*, 9 December, volume 97(24), pages 1445-1450.

(4)   Steel K. Gertman PM. Crescenzi C. Anderson J. Iatrogenic Illness on a general medical service at a university hospital. 1981 *New England Journal of Medicine*, 12 March, volume 304(11), pages 638-642.

(5)   De La Sierra A. Cardellach F. Cobo E. Bové A. Roigé M. Santos MJ. Ingelmo M. Urbano-Márquez A. Iatrogenic illness in a department of general internal medicine. 1989 *Mount Sinai Journal of Medicine,* September, volume 56(4), pages 267-271.

In addition to these more general studies, there were studies looking at iatrogenic harm in particular medical settings, such as surgery[24] and admissions to the intensive care unit[25] and where an adverse event was the reason for a patient's admission to hospital[26].

3.   Modern "adverse event" studies

In the context of growing concerns about medical litigation in the 1970's, a different methodology for measuring the incidence of preventable patient harm across the hospital population was developed. Because Governments were seeking to explore potential alternatives to negligence-based litigation for patients harmed in healthcare, rather than examining healthcare quality from the clinical care perspective in a specific institution, the overall incidence of harm became more important. The most common methodology used in these studies was retrospective medical record review, but a small number used prospective observation methodologies[27], and in one pilot study, used both

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[24]   See eg, Couch NP. Tiney NL. Rayner AA. Moore FD. The high cost of low frequency events – the anatomy and economics of surgical mishaps. 1981 *New England Journal of Medicine*, March 12, volume 304(11), pages 634-63. While this prospective study of general surgery only located 36 patients with adverse outcomes due to error in general surgery in a pool of 5,612 patients in a 12 month period, 20 of these died in hospital – 11 directly as a result of the adverse event. There were 56 important errors in these 36 patients, resulting in 61 complications. Two-thirds of the errors involved an error of commission, defined as an unnecessary, defective or inappropriate operative procedure. 5 of the 16 survivors left hospital with serious physical impairments. The average hospital stay was 42 days (1-325 days range) and the total costs for the 36 patients was $US1,732,432. The most frequent complications were intra-abdominal sepsis eg abscess, peritonitis, (15/61), followed by ischaemic non-cardiac injury eg stroke, gangrene (9/61), renal injury (9/61), mechanical lesion of the bowel (8/61), and cardiac injury eg acute myocardial infarction, arrhythmia, congestive heart failure (7/61).

[25]   See eg, Trunet P. Le Gall JR. Lhoste F. Regnier B. Saillard Y. Carlet J. Rapin M. The role of iatrogenic disease in admissions to intensive care. 1980 *Journal of American Medical Association*, 12 December, volume 244(23), pages 2617-2620. This French study looked at 325 patients admitted to the ICU between 3 August 1978 and 3 August 1979. 41 (12.6%) were admitted from iatrogenic disease. While many had other serious conditions, the admission of 19 patients (46.3% of those with iatrogenic disease) arose from iatrogenic disease caused by avoidable therapeutic or technical errors. The disease caused death in 8 case and was life-threatening in 13.

[26]   See eg, Lakshmanan MC. Hershey CO. Breslau D. Hospital admissions caused by iatrogenic disease. 1986 *Archives of internal medicine,* October, volume 146, pages 1931-1934. This US study studies 834 admissions, which showed 47 distinct iatrogenic events resulting in 45 admissions (5.4% of all admissions). 35 cases were caused by medications, 9 by procedures, 1 each by radiotherapy, transfusional therapy and hospital acquired infection. Around 50% of these admissions were considered avoidable.

[27]   See Table 1.2 later in this Chapter, National French Adverse Events Study (ENEIS) (Study table note 9), French Pilot Comparative Methods Study (Study table note 10) and Iberoamerican Study of Adverse Events (IBEAS) (Study note table 14) – these studies used medical records as part of their data source but as part of the observation process. They used similar screening tools as the Medical Record Review studies.

methodologies on the same patient population.[28] The commonalities across both kinds of studies were the use of a similar definition for an "adverse event" and the choice of a sample, the results from which could be generalised across the country or state's hospital population.

The first three retrospective medical record review studies[29] took place in such a policy environment. There was a perceived litigation "crisis" and doctors (in particular) were calling for action to reduce their medical indemnity premiums. Because of their broader brief, these studies each involved doctors, lawyers, indemnity funders, governments and, in the case of the Professional Indemnity Review, healthcare consumers, in the policy development processes surrounding these studies.

While these three studies were established as responses to a perceived "litigation" crisis, the evidence in each case showed a different picture. In both the US and Australia, the premium rises, which were seen as *prima facie* evidence of a "litigation crisis", were not caused by a steep rise in the incidence of litigation. Rather, they were caused by the need for a financial "catch-up" following consistent, long term underfunding of this form of cover through inappropriate price setting by indemnity insurers and other funders, as well as poor investment outlooks domestically or internationally.[30]

What became clear from the negligence-based studies was that regardless of the level of litigation, the frequency of harm to patients was much greater than the frequency of litigation against doctors. For example, the Harvard Study showed in its Litigation Claims Study that there were 7.6 adverse events to every incident of litigation in New York in the study year[31]. Similarly, in the Californian study, about 17.0% of the

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[28]   See Table 1.2 later in this Chapter, French Pilot Comparative Methods Study (Study table note 10).

[29]   These were the Californian Medical Insurance Feasibility Study, the Harvard Medical Practice Study and the Quality in Australian Health Care Study conducted as part of the Review of Professional Indemnity Arrangements for Healthcare Professionals (the Professional Indemnity Review), discussed below in Table 1.2.

[30]   See, for the United States: Danzon PM. *Medical Malpractice: theory, evidence and public policy* 1985 Harvard University Press, Cambridge (Massachusetts): Part II, page 85 and following; and for Australia: Review of Professional Indemnity Arrangements for Healthcare Professionals. *Compensation and Professional Indemnity in Healthcare – Final Report.* November 1995 Australian Government Publishing Service, Canberra (PIR Final Report): paragraphs 9.142 and following; and Baker T. *The medical malpractice myth.* 2005 University of Chicago Press, Chicago, especially chapters 1-4.

[31]   Localio RA. Lawthers AG. Brennan TA. Laird NM. Hebert LE. Petersen LM. Newhouse JP. Weiler PC. Hiatt HH. Relation between malpractice claims and adverse events due to negligence

potentially compensable events (PCEs) identified were assessed to show evidence of negligence[32]. Further, in the Harvard Medical Practice Study, the study authors argued there was not a good correlation between litigated cases and harm where negligent care had occurred. For example, of the adverse events where negligence was determined to exist in the study, only 2% of these cases had given rise to a claim.[33] Some commentators have argued that the Harvard Study's decisions on negligence were very conservative and based only on the medical record content, rather than the evidence that might be available in a negligence action. Therefore, they argue that this figure grossly underestimates the correlation between negligence and litigation[34]. However, like the Harvard Study, the Professional Indemnity Review found only a small number of negligence claims were being made,[35] especially compared to the incidence of patient harm through adverse events, as disclosed in the Quality in Australian Health Care Study.

While there have been slight variations in the definition of an adverse event in the various modern adverse event studies, they all share common features[36]: the occurrence of an unintended injury, caused by healthcare management rather than the underlying disease process, the consequences of which were sufficiently serious to result in

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– results of the Harvard Medical Practice Study III. 1991 *New England Journal of Medicine*, volume 325(4), pages 245-251 (HMPS article III): at page 248. This differs slightly from the estimate in the HMPS Report, due to additional cases identified in the follow-up (an additional 580 records, of which 12 had filed claims against 18 providers). For comparison, see Harvard Medical Practice Study. (HMPS) *Patients, doctors, and lawyers: medical injury, malpractice litigation, and patient compensation in New York: the report of the Harvard Medical Practice Study to the State of New York.* 1990 Harvard Medical Practice Study Boston. [HMPS Report] A full copy of the scanned Report is available electronically through the New York State Library, via WebCat Call no: HEA 302-4 PATDL – 90 33997, as a 4 part download. Accessed 27 September 2006.page 7-28, where a ratio of 9:1 (or around 11%) was found.

32   Mills DH. *Report on the Medical Insurance Feasibility Study*. Sponsored jointly by the California Medical Association and California Hospital Association. 1977 Sutter Publications, San Francisco [referred to as "the Californian Study"]: Table 66, page 98.

33   Chapter 7 of the HMPS Report at note 31- sets out the results of this work, but more distilled data can be found in the peer reviewed report of this work in the HMPS article III, also at note 31.

34   Baker T. Reconsidering the Harvard Medical Practice Study conclusions about the validity of medical malpractice claims. 2005 *Journal of Law, Medicine and Ethic,.* Fall, volume 33(3), pages 501-514.

35   See PIR Final Report at note 30: paragraphs 2.54-2.103 and 7.8-7.12.

36   The definition and two stage medical record review methodology came first from the Californian Study's definition of a potentially compensable event (PCE). Mills DH. *Report on the Medical Insurance Feasibility Study*. Sponsored jointly by California Medical Association and California Hospital Association. 1977 Sutter Publications, San Francisco [referred to as "the Californian study"]: page 8 (PCE) and pages 23-33 for the methodology.

prolongation of the patient's otherwise expected hospital stay, temporary or permanent disability or death. All studies required doctors to determine:

- causation across a scale: only those events were counted where causation was more likely than not or greater to have been caused by medical or healthcare management;

- preventability across a scale – those were considered to be preventable where it was more likely than not to have been preventable with current clinical knowledge at the time of the occurrence; and

- disability outcomes for affected patients across a scale – if a preventable adverse event required treatment but did not prolong the person's hospital stay, then it was not counted as an adverse event in most studies.

The earlier US studies, driven by the litigation concerns discussed above, also asked doctors to make judgments on whether the occurrence involved negligence.

The methodology of all the retrospective medical record review studies is similar. A sample of records is selected, generally representative of the system's patient population. In some studies, a specific population is oversampled to obtain more data on areas of specific concern, for example, older patients, younger patients, patients in a specific specialty. Where there is oversampling, this is then corrected in the results. The first stage review of the sampled medical records is usually conducted by a nurse or medical records administrator using a screening tool. The screening tool lists events likely to be evident on a medical record, which may indicate an adverse event has occurred[37]. Examples of these are unplanned readmission to theatre or unplanned transfer to intensive care, unexpected death, adverse drug reactions, and injury in hospital[38]. The second stage review is done by either one or two doctors, using a very detailed reporting pro-forma (written or computerised in the more recent studies).   The pro-forma information has been similar, with some studies requiring a narrative summary and some not. The grading scales for degree of causation, preventability and disability have been similar across the different retrospective case note studies.

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[37]   The number of criteria have varied between studies – for example, the California Study had 20 criteria, the Australian Study, the Canadian Study and the UK pilot study had 18 criteria, the Harvard Study had 15 and the recent Latin American IBEAS study had 19 triggers.

[38]   The exact criteria have varied a little between studies, but almost all of the criteria have been shared. For the list used in the Quality in Australian Health Care Study, see Wilson RMcL. Runciman WB. Gibberd RW. Harrison BT. Newby L. Hamilton JD. The Quality in Australian Health Care Study. 1995 *Medical Journal of Australia*, 6 November, volume 163, pages 458-471 (QAHCS article): Table 1, page 460.

Studies using a similar methodology have been conducted across many countries now, and are generally used as a "flag" indicator of the frequency of preventable patient harm across a healthcare system. Table 1.2 summarises the main results of these studies:

Table 1.2: Modern Hospital Population-wide Adverse Event (AE) Studies

Study name	Place, Country	Hospital and patient coverage	No in sample	Key injury results	Disability results	Other interesting findings
California Medical Insurance Feasibility Study *1	California, USA	all patients discharged from non-federal, short-term, general hospitals in California in 1974	20,864 hospitalizations	1,155 PCEs altogether, 970 attributable to 1974 or 4.65% admissions	80.0% temporary disability, 6.5% minor permanent. 3.8% major permanent, 9.7% death	75% of deaths occurred in patients who were not expected to die within one year of the admission
Harvard Medical Practice Study *2	New York, USA	Acute care, non-psychiatric hospitals, Sample weighted to reduce % of older people and increase % of specialties thought to be at high risk of AEs then corrected in results	30,121 admissions	1,278 AEs and 306 negligent AEs identified, 1,133 AEs were within defined time limits, giving an AE rate of 3.7%, with 27.6% of AEs involved negligence	56.8% recovered in 1 month, 16.5% 1-12 months, 6.5% permanent disability, 13.6% death, 6.6% unknown degree of disability	People over 64 (27% of hospital population) had higher incidence of AEs (43% of AES in this group) and higher proportion of negligent AEs (52%). 48% of all AEs associated with operations, 52% non-operative.
Quality in Australian Health Care Study *3	Australia	28 hospitals - Stratified sample of general non-psychiatric hospitals & hospital population	14,179 admissions	16.6% admissions associated with an AE, 8.3% highly preventable, Annual AE rate 13%	46% recovered within 30 days, 30.5% between 1-12 month, 13.6% permanent disability, 4.9% resulted in death.	Agreement between 2 doctors at Stage 2 occurred in 67.9% of records, 32.1% required a third review - 69% of these were disputes about whether there was an AE disclosed.
Utah-Colorado Medical Practice Study *4	Utah & Colorado, USA	15 hospitals in Colorado, 13 in Utah, excluded veterans, psychiatric, rehabilitation and drug and alcohol hospitals	14,700 records	169 AEs in Utah, 418 in Colorado, Overall AE rate 2.9%, negligence rate in Utah 27.5% AEs, 32.6% in Colorado	53.3% minor temporary, major temporary 31.6%, permanent disability 7.5%, grave disability or death 7.5%	Used only one reviewer at Stage 2 - use additional quality checking to address reliability issues. . Elder Care study component showed AEs twice as likely 65 and over, and death rate for preventable AEs over 65 was over 10%.
British Pilot Study *5	London, England	2 hospitals - index admission in 2 months of 1998	1,014 random files	110 patients suffered 119 AEs, 11.7% AE rate, 48% preventable	66% minimal impairment, 19% moderate impairment, 6% permanent impairment, 6% death.	Patients with AEs on average 68.5 v 47.5 years without. 119 AEs resulted in 999 extra bed days. Quality of medical records was inadequate in about half.
New Zealand Adverse Event Study *6	New Zealand	13 acute care public hospitals with over 100 beds - no psychiatric or rehabilitation admissions	6,579 admissions	13% prevalence rate, 11.3% AE rate with 10.4% occurring in public hospitals, 37.1% preventable	7.9% recovered in 30 days, 19.0% in 1-12 months, 10.2% permanent impairment, 4.5% death, 4.7% unable to be determined from record.	AEs more common over 65. When the AE occurred outside hospital, there was a greater degree of disability and death.

Study name	Place, Country	Hospital and patient coverage	No in sample	Key injury results	Disability results	Other interesting findings
Danish Pilot Study *7	Denmark	Random sample from Danish National Patient Register from 17 different acute hospitals	1,097 admissions	176 AEs found in 114 admissions, prevalence rate 9.0% of admissions, 40.4% preventable	Most effects were transient, but in 26.3% of AE admissions, death or permanent disability resulted.	
Canadian Adverse Event Study *8	British Columbia, Alberta, Ontario, Quebec, Nova Scotia	Inpatients in acute facilities within 250 kms of provincial research centre, with >1,500 inpatients in 2002, 24 hr emergency department - one teaching hospital, one large community hospital .100 beds, 2 small community hospitals < 100 beds	3,745 admissions	255 charts contained 289 AEs. 7.5% AE rate, 36.9% preventable	55.7% recovered in less than 1 month, 12.5% in 1-12 months, 5.2% suffered permanent impairment, 15.9% death, and in 10.4% disability couldn't be determined. 1.6% of admissions died from an AE	255 AE patients required additional 1,521 days in hospital directly related to the AE, Errors of omission in medicine caused 57.1% of medical AEs, but 50-50% in surgical cases
French Pilot Comparative Methods Study *10	Aquitaine, France	Patients in 37 wards in 3 public and 4 private hospitals	778 patients	241 AEs in 174 patients - 70% had 1, 22% had 2 and 8% had 3 AEs. Overall AE rate was 31.0%	Not obtained- purpose of study was to test methods for ENEIS below	This study compared cross sectional (data gathered on one day), prospective (data gathered during hospital stay), retrospective record review method over same patient sample. Only 25% of all AEs were detected by all methods, and less than 4% of preventable AEs. Retrospective and prospective performed best.
National French Adverse Events Study (ENEIS) *9	Aquitaine, France	117 hospitals	8,754 patients	450 AEs - 181 preventable - 6.6% AEs per 1,000 bed days during hospitalisation, 37.2% preventable, in addition 4% of admissions were caused by AEs - 45% were preventable	Temporary disability/ prolongation of stay 66.2% of AEs; 29.3% Serious disability (permanent or life threatening); 1.7% death	This study showed higher AE rates with older, more fragile patients. Prospective study method used.
Spanish Adverse Events Study (ENEAS) *11	Spain	Patient had to have been an inpatient in one of 24 hospitals in the sample representing all Spanish hospitals by size for at least 24 hours and been discharged between 4-10 June 2005.	5,624 records	9.3% incidence of AEs. (525)- 473 occurred in hospital. In 105 AE caused the admission	45% were considered of low seriousness (43.5% preventable), 39% of moderate seriousness (42% preventable), 16% serious AEs (41.9% preventable)	Patients over 65 with other risk factors were 2.5 times more likely to suffer an adverse event than a younger person without risk factors.17.7% of patients with an AE had more than one AE.

Study name	Place, Country	Hospital and patient coverage	No in sample	Key injury results	Disability results	Other interesting findings
Dutch Adverse Events Study *12	Holland	21 of 101 Dutch hospitals- 4 university, 6 tertiary teaching, 11 general -3,983 deceased patients and 3,943 discharged patients in 2004	7,926 admissions	5.7% of admissions had one or more AE, 40% preventable	12.8% resulted in death or permanent disability; 10.7% of deceased hospital patients had an AE, and in 4.1% of hospital deaths, a preventable AE contributed to the death.	Proportion and impact of AEs increased with age. More than 50% were related to surgery.
OIG Medicare Adverse events study *13	USA	Statistically valid sample of Medicare patients discharged in October 2008	780 beneficiaries	13.5% suffered AE and another 13.5% had temporary disability requiring treatment but not defined as an AE; 44% of both were considered preventable. Estimated direct annual care costs of preventable harm in 2009 was $4.4B - 3.5% of inpatient expenditure.	0.6% had a National Quality Forum Serious Reportable Event, 1.0 had a Medicare Hospital Acquired Condition (HAC) event, and 13.1% experienced one of the four most serious categories of patient harm - 1.5% AE contributed to death.	86% of harm not reported in ordinary incident monitoring systems - 62% because staff did not consider it reportable, 25% because while they normally reported these kind of things, this time they didn't. 28% of beneficiaries who had an AE also experienced temporary harm. Projection of death rate to Medicare beneficiary hospital population is 15,000 patients per month.
Iberoamerican study of adverse events (IBEAS) *14	Argentina, Colombia, Costa Rica, Mexico and Peru	58 hospitals across 5 countries - 2000 patients per country during the study week AE had to be present on day of observation	11,379 inpatients	1,191 patients had at least one AE, point prevalence rate 10.5%, 60% of which were considered preventable	28% of AEs caused disability, 6% associated with death of the patient, 64.7% of AEs prolonged hospital stay on average of 16 days	Used medical record review tools but observations only related to one day in hospital so data not comparable with other studies - sought point prevalence instead. 40% of AEs related to hospital acquired infections, and 1.5% of admissions were caused by AEs
Eastern Mediterranean and African Adverse Event Study *15	Egypt, Jordan, Kenya, Morocco, South Africa, Sudan, Tunisia, Yemen (265M people - 1/3 living below poverty line)	26 hospitals, 23 general hospitals (including 13 teaching hospitals), 1 paediatric hospital, 1 maternity hospital, 1 private hospital	15,548 admissions	Rate overall 8.2% of admissions (varied between countries from 2.5-18.4%), 83% considered highly preventable	32% recovered within 30 days, 16% between 6-12 months, 14% permanent disability, 30% died.	Low rate of selection at first screening may have resulted in lower AE rate. AE mostly occurred when there was good consensus on diagnosis and treatment and in non-complex settings - therapeutic error was most frequent cause 34.2%, diagnostic error 19.1% and operative error in 18.4% of AEs.

Notes to Table 1.2:

*1   Mills DH. *Report on the Medical Insurance Feasibility Study*. Sponsored jointly by the California Medical Association and California Hospital Association. 1977 Sutter Publications, San Francisco.

*2   Harvard Medical Practice Study. (HMPS) *Patients, doctors, and lawyers: medical injury, malpractice litigation, and patient compensation in New York: the report of the Harvard Medical Practice Study to the State of New York.* 1990 Harvard Medical Practice Study Boston. A full copy of the scanned Report is available electronically through the New York State Library, via WebCat Call no: HEA 302-4 PATDL – 90 33997, as a 4-part download. Accessed 27 September 2006.

*3   Wilson RMcL. Harrison BT. Gibberd RW. Hamilton JD. An analysis of the causes of adverse events from the Quality in Australian Healthcare Study. 1999 *Medical Journal of Australia*, volume 170, pages 411-415.

*4   Thomas EJ. Studdert DM. Burstin HR. Orav EJ. Zeena T. Williams EJ. Howard KM. Weiler PC. Brennan TA. Incidence and types of adverse events and negligent care in Utah and Colorado. 2000 *Medical Care,* volume 38(3), pages 261-271.

*5   Vincent C. Neale G. Woloshynowych M. Adverse events in British hospitals: preliminary retrospective record review. 2001 *British Medical Journa*l, 3 March, volume 322, pages 517-519.

*6   Davis P. Lay-Yee R. Briant R. Schug S. Scott A. Johnson S. Bingley W. *Adverse events in New Zealand Public Hospitals: Principal findings from a National Survey*. Ministry of Health Occasional Paper Number 3. December 2001 Ministry of Health, Wellington.

*7   Schioler T. Lipczak H. Pedersen BL. Morgensen TS. Bech KB. Stockmarr A. Svenning AR. Frolich A. Incidence of adverse events in hospitals – a retrospective study of medical records. 2001 *Ugeskr Laeger*; 24 September, volume 163(39), pages 5370-5378.

*8   Baker GR. Norton PG. Flintoft V. Blais R. Brown A. Cox J. Etchells E. Ghali W. Hebert P. Majumdar S. O'Beirne M. Palacios-Derflingher L. Reid R. Sheps S. Tamblyn R. The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada. 2004 *Canadian Medical Association Journal*, 25 May, volume 170(11), pages 1678-1686.

*9   Michel P. Quenon JL. de Sarasqueta AM. Scemama O. Comparison of three methods for estimating rates of adverse events and rates of preventable adverse events in acute care hospitals. 2004 *British Medical Journal*, 24 January, volume 328, pages 199-203.

*10   Michel P. Quenon JL. Djihoud A. Tricaudvialle S. de Saraqueta AM. Domecq S. with the collaboration of Haury B. and Cases C. *Les événements indésirables graves lies aux soins observes dans les établissements de santé: premiers resultants d'une tude nationale.* Études et Résultats, Direction de la Recherche des Études de L'Évaluation et des Statistiques.

*11   Aranaz JM. Albar C. Vitaller J. Ruiz P. *National Study of Adverse Events Related to Healthcare in Hospitals*. ENEAS 2005 at http://www.who.int/patientsafety/research/eneas/en/index/en/index.html .

*12   Zegers M. de Bruijne MC. Wagner C. Hoonhout LHF. Waaijman R. Smits M. Hout FAG. Zwaan L. Christiaans-Dingelhoff I. Timmermans DRM. Grownewegen PP. van der Wal G. Adverse events and potentially preventable deaths in Dutch hospitals: results of a retrospective patient record review study. 2009 *British Medical Journal Quality and Safety*, volume 18, pages 297-302.

*13   Department of Health and Human Services Office of Inspector General. *Adverse events in hospitals: National incidence among Medicare Beneficiaries*. Daniel R Levinson Inspector General. OEI-06-07-00090. November 2010.

*14   Aranaz-Andrés JM. Aibar-Remón C. Limón-Ramírez R. Amarilla A. Restrepo FR. Urroz O. Sarabia O. García-Corcuera LV. Terol-García E. Agra-Varela Y. Gonseth-García J. Bates DW. Larizgoitia I. on behalf of the IBEAS team. Prevalence of adverse events in the hospitals of five Latin American countries: results of the 'Iberoamerican study of adverse events' (IBEAS). 2011 *British Medical Journal of Quality and Safety*, pages 1-10 at doi:10.1136/bmjqs.2011.051284.

*15   Wilson RM. Michel P. Olsen S. Gibberd R. Vincent C. El-Assady R. Rasslan O. Qsous S. Macharia WM. Sahel A. Whittaker S. Abdo-Ali M. Letaief M. Ahmed NA. Abdellatif A. Larizgoitia I. for the WHO Patient Safety EMRO/AFRO Working group. Patient safety in developing countries: retrospective estimation of scale and nature of harm to patients in hospital. 2012 *British Medical Journal,* volume 344, 13 March 2012, e832, pages 1-14.

Retrospective medical record review analysis studies of the kind described above are generally not built into regular organisation-wide reporting[39], which is designed to identify when patient harm occurred, because it has been argued to be too costly and inaccurate in its current form[40]. However, where this methodology has been compared with regular reporting such as incident monitoring, the evidence is that more adverse events are identified by medical record review. For example, in the 2012 report of the Department of Health and Human Services Office of the Inspector General in the USA, 86% of the instances of harm identified in the retrospective medical record review analysis study were not reported through the normal incident monitoring systems. When asked why they did not report, 62% of staff said they didn't think it was reportable and 25% said they would normally have reported but didn't on that occasion.[41]

There are other studies which show the most popular forms of adverse event reporting vastly underestimate the incidence of serious harm. For example, a 2011 US study[42] compared the most common US hospital reporting methods of voluntary reporting of sentinel events, other voluntary reporting of adverse events, and the Agency for Healthcare Research and Quality's Patient Safety Indicators with the Institute for Healthcare Improvement's Global Trigger Tools medical record review[43]. The results showed that the most common methods missed 90% of adverse events. The study was conducted in three

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[39] An example of where this has been done on a regular basis is in the Wimmera in Victoria. Their clinical risk management program includes medical record review screening of all admissions against a simplified set of criteria, combined with incident monitoring, and a range of other measurement and monitoring tools. There is good evidence showing that this has reduced incidence of preventable patient harm. See Wolff AM. Bourke J. Campbell IA. Leembruggen DW. 2001 *Medical Journal of Australia*, volume 174(12), pages 621-625. The methodology has been fully set out in Wolff A. Taylor S. *Enhancing Patient Care: A practical guide to improving safety and quality in hospitals*. 2009 MJA Books Strawberry Hills (Australia).

[40] Neale G. Woloshynowych M. Retrospective case record review: a blunt instrument that needs sharpening. 2003 *Quality and safety in health care*. February, volume 12(1), pages 2-3.

[41] Department of Health and Human Services Office of the Inspector General (USA). *Hospital incident-reporting systems do not capture most patient harm*. Daniel R. Levinson Inspector General, January 2012, OEI-06-09-00091: page ii.

[42] Classon D. Resar R. Griffin F. Federica F. Frankel T. Kimmel N. Whittington J. Frankel A. Seger A and James B. 'Global Trigger Tool' shows that adverse events in hospitals may be ten times greater than previously measured. 2011 *Health Affairs*. April, volume 30(4), pages 581-589

[43] The IHI Global Trigger Tool is a refined and expanded medical record review methodology for identifying adverse events on an on-going basis. See Griffin FA. Resar RK. *IHI Global Trigger Tool for Measuring Adverse Events*. IHI Innovation Series white paper. 2nd Edition 2009 Institute for Heathcare Improvement, Cambridge (Massachusetts).

large tertiary hospitals with well-established operational patient safety programs. The programs were judged to be so on the basis that they received external funding for patient safety research, they had internal operating programs to improve the detection of adverse events and special tools built around advanced electronic health records systems, and they had received external recognition for their internal patient safety initiatives through awards, publications or involvement in national initiatives. The rate of adverse events in this study was 33.2% of admissions. Given that a number of patients suffered multiple adverse events, the overall incidence was 49% of admissions. This result is not included in the above table because it used a wider definition of adverse events, though all required the occurrence of preventable patient harm to be counted. After reporting these results, the authors concluded that, while these rates were high, it was likely that that "true rates are likely to be higher still, given the consistent finding that direct observational studies reveal higher rates of adverse events than retrospective studies because not all adverse events are documented in the patient record."[44]

The retrospective medical record review analysis methodology has been adapted in Australia by the Wimmera Healthcare Group in Victoria, Australia and Dr Alan Wolff, to provide a more cost effective option for on-going use in the patient safety and quality programs of individual hospitals[45]. The methodology has also been built into elements of other review methodologies, such as was used in the systematic review component of the 2010 study of preventable patient harm in the Paediatric Intensive Care ward at the Royal Melbourne Children's hospital.[46]. This methodology included both concurrent checking processes by an observer and retrospective record checks. In total, the incidence of harm was 26.1% of patients. The systematic method revealed 80% of the incidents, whereas incident reporting detected only 32%. Incident monitoring was least reliable in cases of major, severe or catastrophic harm related to medical or surgical diagnosis or management. As this method is regularly used in hospitals to monitor quality of care, this means that it is

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[44]   Classon D. Resar R. Griffin F. Federica F. Frankel T. Kimmel N. Whittington J. Frankel A. Seger A and James B. 'Global Trigger Tool' shows that adverse events in hospitals may be ten times greater than previously measured. 2011 *Health Affairs*. April, volume 30(4); pages 581-589: at page 586.

[45]   Wolff A. Taylor S. *Enhancing patient care: a practical guide to improving quality and safety in hospitals*. 2009 MJA Books Sydney: section 4.2.3, pages 51-63.

[46]   Silas R. Tibballs J. Adverse events and comparison of systematic and voluntary reporting from a paediatric intensive care unit. 2010 *Quality and Safety in Health Care*, volume 19(6), pages 568-571.

likely that most preventable patient harm is not detected, reported or able to be addressed. To act on a problem, it needs to be known about.

D.   So far, not so good …

Despite these efforts to identify the extent of patient harm over more than 20 years, and many attempts to reduce patient harm, the healthcare system remain surprisingly tolerant to continuing high levels of preventable patient harm. While there appears to be widespread acceptance in medicine of the maxim that a doctor should "First, do no harm", in 2008 the World Health Organisation stated that "Unsafe medical care is a major source of morbidity and mortality throughout the world"[47].

In those countries, which have had data on the frequency of harm for the longest, the story is little changed. Using the results from the New York based Harvard Medical Practice Study and the Utah-Colorado study set out in Table 1.2 above, the 1999 US Institute of Medicine Report *To Err is human* stated:

> When extrapolated to the over 33.6 million admissions to U.S. hospitals in 1997, the results of the study in Colorado and Utah imply that at least 44,000 Americans die each year as a result of medical errors. The results of the New York Study suggest the number may be as high as 98,000. Even when using the lower estimate, deaths due to medical errors exceed the number attributable to the 8th-leading cause of death.   More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516). … In terms of lives lost, patient safety is as important an issue as worker safety. Every year, over 6,000 Americans die from workplace injuries. Medication errors alone, occurring either in or out of the hospital, are estimated to account for over 7,000 deaths annually.[48]

The goal of the report was to "break the cycle of inaction" and to produce a health system for patients that did not cause harm[49]. The four-tiered approach recommended looked at systemic responses in the main and proposed, among other things, a nationwide mandatory

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47   World Health Organisation (WHO) World Alliance for Patient Safety. *Summary of the evidence on patient safety: implications for research*. Prepared by the Research Priority Setting Working Group of the World Alliance for Patient Safety. 2008 WHO, Geneva: page XIII.

48   Kohn LT. Corrigan JM. Donaldson M. (editors). *To err is human: building a safer health system.* Committee on Quality of Healthcare in America. Institute of Medicine. 1999 National Academy Press, Washington DC: pages 1-2.

49   Kohn LT et al. - see note 48: page 3.

reporting system for all "adverse events that result in death and serious harm"[50]. More than a decade later in 2011, the US Commonwealth Fund noted that:

> [Despite] national, statewide and professional campaigns to persuade hospitals to adopt practices that have been shown to reduce patient mortality … nevertheless, the nation appears to be far from realizing the goal of eliminating unintentional harm to some patients resulting from healthcare. For example, a recent study found no significant change from 2002 to 2007 in the overall rate of patient harm or of preventable harm recorded in patient records drawn from a random sample of 10 hospitals in North Carolina.[51]

There have been only a few studies looking at the longitudinal recording of patient harm data, and these confirm that there has been little progress. A study of patient harm levels in 10 hospitals in North Carolina, noted above, was published in 2010. This used the IHI Trigger Tool methodology (which gave a rate of preventable patient harm around 25% of admissions), and showed that there was no significant change in the rate of harm identified by internal reviewers over the six-year period, and that there was no reduction in rates of harm judged to be preventable[52]. A 2013 Dutch study showed an increase in adverse events over the period 2004-2008, from 4.1% to 6.2%. While the study considers that some of the increase arose from changed patient case-mix, the authors conclude that the patterns of adverse events over the period remain consistent, and that "patient harm related to healthcare is a persistent problem that is hard to influence" and that continuing to measure over time "stresses the continuing urgency" for action on patient safety.[53]

Action has also been slow both in the US and Australia on one of the acknowledged prerequisites for accurately measuring progress on preventable patient harm: the regular

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[50]   Institute of Medicine. *To Err is human: building a safer health system summary*. November 1999: page 3.

[51]   McCarthy D. Klein S. *Keeping the Commitment: a progress report on four early leaders in patient safety improvement – synthesis report*. Publication 1478, volume 10. March 2011 The Commonwealth Fund, Washington DC.

[52]   Landrigan CP. Parry GJ. Bones CA. Hackbarth AD. Goldman DA. Sharek PJ. Temporal trends in rates of patient harm resulting from medical care. 2010 *New England Journal of Medicine*, 25 November, volume 363(22), pages 2124-2134: at page 2127.

[53]   Baines RJ. Langelaan M. de Bruijne MC. Asscheman H. Spreeuwenberg P. van de Steeg L. Siemerink KM. van Rosse F. Broekens M. Wagner C. Changes in adverse event rates in hospitals over time: a longitudinal retrospective patient record review study. 2013 *BMJ Quality and Safety*, April, volume 22(4), pages 290-298.

recording of individual patient harm and patient outcomes of care as a normal incident of healthcare. In the US, for example, one commentator noted that a decade on from the Institute of Medicine's report that "hard evidence of improved outcomes remains elusive because of our rudimentary measurement capacity in safety"[54]. The lack of effective, and appropriately sensitive measurement of the incidence and types of preventable patient harm was recently identified as one of the probable explanations for the lack of progress in patient safety, combined with the lack of proven effective, "dispersible" interventions, low levels of financial investment and the "newness" of the patient safety "discipline"[55]. The authors of the 2016 estimate that medical error was now the third highest cause of death in the US noted that:

> currently deaths caused by errors are unmeasured and discussions about prevention occur in limited and confidential forums, such as a hospital's internal root cause analysis committee or a department's morbidity and mortality conference. These forums review only a fraction of detected adverse events and the lessons learnt are not disseminated beyond the institution or department.[56]

In Australia, two decades after the publication of the Quality in Australian Health Care Study, there have been repeated calls for the regular collection of reliable data on adverse events but little action. The Final Report of the Professional Indemnity Review that commissioned the Australian study[57]first recommended this in 1995. In 2010, the Australian Commission for Quality and Safety in Healthcare, echoing the earlier reports of the previous 15 years, stated that:

> Measuring the safety of healthcare is a key step .... However, currently, there is a lack of reliable and consistently reported national data on patient safety in Australian hospitals which quantifies the levels of harm or the rate of adverse events. One of the essential tools in improving patient safety in Australian hospitals is the provision of routine, accurate data on the severity and types of patient harm to clinicians, hospitals and policy makers. Sentinel events are reported annually by

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[54]   Wachter RM. Patient safety at ten: unmistakable progress, troubling gaps. 2010 *Health Affairs*. January, volume 29(1), pages 165-173: at page 172.

[55]   Shojania KG. Thomas EJ. Trends in adverse events over time: why are we not improving? 2013 *BMJ Quality and Safety*, April, volume 22(4), pages 273-277.

[56]   Makary et al 2016 – see note 3: at page 2.

[57]   The need for effective data on preventable patient harm was called for in the Final Report of the Professional Indemnity Review (the overseeing and funding body of the Quality in Australian Health Care Study) in 1995, the Taskforce in Quality and Safety in Australian Healthcare in 1996 (See eg Recommendations 7 and 17 and others), the National Expert Action Group on Quality and Safety in Australian Healthcare in 1999 (Action 5), the Australian Council on Quality and Safety in Healthcare and the Paterson Review of the Council in 2006.

jurisdictions, by the Productivity Commission, and in this publication. Such reporting, however, does not constitute the timely, routine feedback of key information required to support change at all levels of the system. The need to go beyond sentinel events and understand the magnitude of those events which occur far more often but result in relatively lower patient harm (sometimes referred to somewhat dismissively as 'mundane' events) has been argued for some time. These events cause significant harm to patients.[58]

In 2012, the Australian Commission for Quality and Safety in Healthcare, stated in its new Accreditation standards that:

> Although most healthcare in Australia is associated with good clinical outcomes, patients still do not always receive all the care that is recommended to them, and preventable adverse events continue to occur across the Australian healthcare system.

> Presently, the data that measures the extent to which problems are occurring are unavailable or unreliable. This prevents the establishment of a baseline value from which improvements in safety and quality of care can be measured.[59]

While there have been many activities directed at safer healthcare, these do not appear to have been effective in the reduction of preventable harm to patients, despite the extensive focus on "system improvement". Even where these efforts may have had success, understanding of this and dissemination of lessons remain hampered by inadequate patient outcome recording.

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[58]   Australian Commission on Safety and Quality in Health Care (ACSQHC). Chapter 10 - Reporting for Safety: Use of Hospital Data to monitor and improve patient safety in ACSQHC. *Windows into Safety and Quality in Health Care*. 2010 ACSQHC, Sydney: page 86.

[59]   Australian Commission on Safety and Quality in Healthcare (ACSQHC). *National Safety and Quality Health Service Standards -September 2012*. 2012 ACSQHC Sydney: page 15.

Chapter 2: Doctors and the Doctor Identity

A. *Introduction*

Chapter 1 set out some of the extensive data on the incidence of preventable patient harm as well as noting the evidence that effective action on this issue has been limited. While much effort has been directed at an examination of the healthcare system and how error and harm occurs there, this thesis specifically explores the role of doctors. This Chapter discusses, among other things, some of the effects of the adoption of a systems focus in health in the 1990s, in particular on the role of doctors in the health system, and the impact of "the system" on doctors. The thesis argues that doctors are important actors in and on the system, powerfully influenced by and powerfully influencing healthcare. They have a key role in the nature of "the system" and how it functions.

Just as healthcare is a complex system, so too, at the psychological level, is the individual Doctor Identity. Complex influences that form the identity and interact with it include a doctor's own developmental background, their training and education and their individual, social and relational experiences as doctors. However, doctors are also human beings, who respond physiologically and psychologically to the world they are in, as do all others. Their experiences in the world shape them just as they shape the world in which they live and work. The growing understanding of brain plasticity and the positive and negative impacts of this throughout the brain shows that "everything we think, feel and remember is somewhere in the structure of the brain itself. Our brains embody our experiences."[1]

Before discussing relevant psychological and neurobiological functions in the next chapter, this chapter also looks at the "mixed messages" given to doctors about their place in the healthcare system and their responsibility as actors. The inherent threat to a doctor's identity from preventable patient harm is compounded by uncertainty and lack of trust in the system in which they work, which in turn, generate greater levels of fear. Fear – particularly where it is generated by threat to identity, can be an overwhelming psychological driver to actions not fully mediated by the cognitive brain.

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[1] O'Connor R. *Undoing depression – what therapy doesn't teach you and medication can't give you*. 2nd edition 2011 Souvenir Press, London: accessed as a Kindle Book, location 1307 of 7260.

B. Why doctors?

Most adverse event studies have looked at healthcare management, when determining causation of adverse events, consistent with a system-based analysis of harm. This thesis, focuses more on the role of doctors, because of the central role they play in the delivery of healthcare to patients and in the achievement of safer care for patients. This thesis hypothesises that such a focus is justified for three reasons:

1. doctors continue to have the dominant role in the clinical delivery of healthcare, in particular, in hospital-based care;

2. data shows that doctors play the most significant role in the causation of preventable patient harm in most clinical relationships; and

3. doctors play a central role in the implementation of patient safety strategies and in clinical leadership, and if they are not "on board" they can thwart such processes.

While this thesis focuses specifically on the role of doctors, the analysis of professional identity developed here can also apply to other professionals in the healthcare system. For example, just as there is a Doctor Identity, so there is a "nurse identity", a "psychologist identity", a "social worker identity" and a "pharmacist identity".

The enculturation of professional expectations and practice mores occurs in all these areas, as well as in areas outside of healthcare, such as the law, academia and other careers. In the end looking at these other groups may provide a richer, more interactive understanding of the pressures and interrelationships with a "system", particularly in response to error and similar threats to professional identity. However, this thesis begins with the identity of a Doctor, for the reasons summarised above and expanded below.

Medical dominance

Medicine has long been recognised as the quintessential "profession". The American sociologist Eliot Freidson described what this meant in the Anglo-American context:

> [Professions] gain their distinction and position in the market-place … from their training and identity as particular, corporately organised occupations to which specialized knowledge, ethicality and importance to society are imputed, and for which privilege is claimed."[2]

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[2] Freidson E. *Professionalism Reborn – Theory, prophecy and policy*. 1994 University of Chicago Press, Chicago.: page 19.

External characteristics traditionally attributed to professions include Government endorsed monopoly powers, autonomy over services provided by the group, political "sovereignty" in relation to government policy in the profession's areas of interest and dominance in the division of labour. For a long period, doctors have been the overwhelmingly dominant professional force in healthcare at the structural, political and clinical levels[3].

There is evidence that the medical profession's dominance in a number of these areas has reduced since its peak last century[4]. The last decade has seen significant changes in Australia in medical autonomy as governments have become more involved in the regulation of doctors[5] and hospitals[6]. In addition, the medical monopoly power to receive income under tax-payer funded Medicare benefits[7] and to prescribe drugs under the Pharmaceutical Benefits Scheme[8] have altered with other health professionals

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[3]   Freidson E. *Professional Dominance – the social structure of medical care* 1970 (reissued in 2007) Aldine Transaction Publishers, New Brunswick; and Willis E. *Medical dominance – the division of labour in Australian healthcare*. Studies in Society19 - Series editor: Wild R. 1983 George Allen and Unwin, Sydney.

[4]   See eg, Willis E. Introduction: taking stock of medical dominance. 2006 *Health Sociology Review*, volume 15, pages 421-431; and Coburn D. Medical Dominance then and now: critical reflections. 2006 *Health Sociology Review*, volume 15, pages 432-443.

[5]   The most recent development in this area has been the introduction of national registration for medical practitioners and other health professionals with the passage by all jurisdictions of Health Practitioner Regulation National Law eg *Health Practitioner Regulation National Law (ACT) 2010*.

[6]   See eg, the establishment of various bodies under *the National Health Reform Act 2011*, including the National Health Performance Authority in 2012 to provide, among other things, public data on hospital performance. While the NHPA has been closed from 1 July 2016, the regulatory framework and capability was transferred to the Australian Institute of Health and Welfare. http://www.nhpa.gov.au/internet/nhpa/publishing.nsf/Content/Closure-of-NHPA . There is now some public reporting on performance through two different web-sites: http://www.myhospitals.gov.au/ and http://www.myhealthycommunities.gov.au/. See also the establishment of legislated obligatory accreditation under the National Safety and Quality Health Service Standards since 2013 https://www.safetyandquality.gov.au/wp-content/uploads/2011/09/NSQHS-Standards-Sept-2012.pdf .

[7]   Certain optometry services have been covered by Medicare since its commencement. The extension of Medicare Benefits to other health professionals first occurred in 2004 in relation to allied health services provided to patients under a GP supervised chronic disease management plan. Over the next decade, various allied health services have been extended to different population groups or to services related to specific health and disability conditions. For current coverage, see Department of Health and Ageing. *Medicare Benefits Schedule – Allied Health Services*. 1 July 2012, accessed 19 July 2013 at http://www.health.gov.au/internet/mbsonline/publishing.nsf/Content/700EAEBE8BC5D5FECA257A0F0017617F/$File/201207-Allied.pdf.

[8]   See eg the Commonwealth Government's 2010 legislative arrangements in relation to Nurse practitioners, which provide not only for Medicare payment and prescribing rights, but also powers to order certain tests and to refer patients to specialists. For details, see Australian Government Department of Health and Ageing. *Eligible Nurse Practitioners – Questions and Answers*. 1 November 2012, published by Medicare Financing and Analysis Branch.

having access to these funds, albeit, under varying degrees of medical oversight or statutorily obliged "collaboration"[9].

Despite these changes, doctors have retained their dominant position in relation to the clinical management and treatment of patients, and through their clinical leadership role in healthcare. In addition, in many parts of Australia and elsewhere, where there is a shortage of doctors or where doctors bring in income for a hospital (such as in private hospitals), doctors retain political and social power virtually unchanged from earlier periods. In these cases, the alleged growing power of hospital administrators to control and influence doctor behaviour are often thwarted by the power of doctors to threaten withdrawal of their services if any aspect of their "professional autonomy" is questioned[10]. In rural and remote communities where retention of a doctor as a necessary local service is paramount, the social and practical pressure on administrators to simply ignore poor practices can be great, when the administrator's job may be threatened if doctors withdraw their labour, and communities are left with limited or no health services.

The patient interface with a hospital is mediated almost exclusively by doctors, who control admission to hospital, discharge from hospital and the management of a patient in hospital[11]. Despite the rhetoric of "team based" care and some preliminary efforts at "team training", recent studies have shown that power continues to reside in the hands of doctors.[12]

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[9]   See eg, Ministerial Determination *National Health (Collaborative arrangements for nurse practitioners) Determination 2010*

[10]   Personal commentary from a rural hospital administrator in NSW, August 2013. The issue of doctor power when there is a shortage of doctors also occurs in other countries: see Allsop J. Medical dominance in a changing world: the UK case. 2006 *Health Sociology Review*, volume 15(5), December, pages 444-457: see especially pages 449 and 453-454.

[11]   See eg, Negus P. Greenfield D. Travaglia J. Westbrook J. Braithwaite J. How and where clinicians exercise power: Interprofessional relations in healthcare. 2010 *Social Science and Medicine*, volume 71, pages 898-909.

[12]   See eg, Reeves S. Rice K. Gotlib Conn L. Miller K. Kenaszchuk C. Zwarenstein M. Interprofessional interaction, negotiation and non-negotiation on general internal medicine wards. 2009 *Journal of Intraprofessional Care*, November, volume 23(6), pages 633-645; Salhani D. Coulter I. The politics of interprofessional working and the struggle for professional autonomy in nursing. 2009 *Social Science and Medicine*, volume 68, pages 1221-1228. Braithwaite J. Westbrook M. Nugus P. Greenfield D. Travaglia J. Runciman W. Foxwell A. Boyce R. Devinney T. Westbrook J. Continuing differences between health professions' attitudes" the sage of accomplishing systems-wide interprofessionalism. 2013 *International Journal for Quality in Healthcare*, volume 25(1), pages 8-15.

Within the clinical relationship between doctors and patients, the power dynamic has shifted somewhat towards the patient or consumer, for example, in relation to the doctor's legal obligations in relation to disclosure of risk to a patient or potential patient[13]. A doctor can no longer keep expert knowledge to himself or herself and make paternalistic decisions on behalf of a patient. Australian law requires that a patient be told anything that a reasonable patient would want to know so far as risks and benefits are concerned[14]. There has also been a greater policy focus on patient's rights[15], though the existing Australian statements of rights are aspirational rather than enforceable.

While these changes to some extent modify and arguably reduce the power that doctors have traditionally been accorded in the clinical encounter, doctors continue to be the principal authority at the clinical interface. This is not only because of their specialised knowledge, but because of their various powers, in the hospital and in relation to treatment in the community. For example, in a business process re-engineering project at the Leicester Royal Infirmary, it was concluded that "local variation across the clinical settings was down to the high degree of control that doctors held over work practices and which the reengineers found difficult to reshape over short time scales"[16]. The authors of the study noted that:

> The powerbase of professional workers – here doctors – remains a crucial factor in the organisational context of change within the health sector.[17]

The clinical encounter, where most preventable harm occurs and where actions to prevent harm can have most effect, clearly remains under the power and control of the doctor in most healthcare situations and almost always in hospitals.

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[13]   While "informed consent" had been the focus of the law in the US and in the UK the focus had been on the practice of a reasonable doctor, the Australian High Court shaped the Australian law in terms of disclosure of risk of what a reasonable patient would want to know in the 1992 judgement of *Rogers v Whitaker* (1992) Commonwealth Law Reports, volume 175, page 479.

[14]   *Rogers v Whitaker* 1992 HCA 58.

[15]   See eg, the Australian Charter of Healthcare Rights, developed between 2007-2008 by the Australian Commission on Safety and Quality in Healthcare, was endorsed by the Australian Health Ministers Council in July 2008 and applies to all public and private health settings in Australia.

[16]   Dickinson H. Ham C. *Engaging doctors in Leadership: Review of the Literature.* 2008 National Health Service Institute for Innovation and Improvement and Academy of Medical Royal Colleges, London: page 20.

[17]   McNulty T. Ferlie E. *Re-engineering Healthcare: the complexities of organizational transformation.* 2002 Oxford University Press, Oxford: page 2.

While hospital services are provided within a bureaucracy, where non-clinical staff can have hierarchical power, the exercise of power in hospitals occurs in what is categorised in the literature as a "professional bureaucracy." One key feature of this is:

> that front line staff have a large measure of control over the content of work by virtue of their training and specialist knowledge. Consequently, hierarchical directives issued by those nominally in control often have limited impact, and indeed may be resisted by front line staff. [18]

Because of the primacy of the role of doctors in the hospital's front line, understanding the motivation and conduct of doctors is necessary because of the impact these have on individual patient safety behaviour and collective professional responses.

Medical causation and contribution

Despite the repeated assertion that the vast majority of adverse events are caused by system failures, most studies, in fact, show that the actions (or inactions) of doctors are significant causes of preventable patient harm. For example, in the Quality in Australian Health Care Study, the clinical situation codes for the "specialty responsible for an adverse event" showed that over 65% of adverse events were found to be the responsibility of hospital-based specialty doctors and another 6.3% were judged to be the responsibility of general practitioners. Nursing was reported as responsible for 3.6% of adverse events and almost 25% were attributed to "others".[19]

Looking from a different angle, the Australian Incident Monitoring System Study into the first 2000 voluntary incident reports in anaesthetics showed that while 90% of these incidents involved system failure, 83% also involved human failure.[20] The incidents in this study were those voluntarily reported by anaesthetists and may or may not have involved harm to a patient. As stated "the AIMS data represent the spectrum of incidents which individual anaesthetists felt motivated to report. It is highly likely that

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[18]   Ham C. Dickinson H. *Engaging doctors in leadership: what we can learn from international experience and research evidence.* 2008 National Health Service Institute for Innovation and Improvement and Academy of Medical Royal Colleges, London: page 8.

[19]   Quality in Australian Healthcare Study Consortium. (Gibberd R. Hamilton J. Wilson R. Harrison B, Newby L. Howley P. Dolja-Gore X.) *Quality in Australian Healthcare Study. Final Report – Second Part.* Presented to the Commonwealth Department of Health in 1996. Unpublished: Table 4.2.10; page 61.

[20]   Webb R. Currie M. Morgan C. Williamson J. McKay P. Russell W. Runciman W. The Australian Incident Monitoring Study: an analysis of 2000 incident reports. 1993 *Anaesthesia and Intensive Care*, October, volume 21(5), pages 520-528: see Table 6, page 526.

unusual, interesting or particularly dangerous incidents are more likely to have been reported than mundane events"[21]. It is also likely that doctors may have not reported incidents where they were the causative agent – either because of fear of disclosure or, as will be discussed in the next chapter, because of a lack of awareness that the event occurred. Even with the limitations of these data, the importance of individual acts of omission or commission by doctors can be seen in the proportion of incidents at least partly attributed to human failure.

In some studies, the extent of involvement of doctors in preventable patient harm has been assessed differently, but it remains a strong feature. For example, the 2008 US study of adverse events in Medicare patients showed that 7.4% of Medicaid admissions involved a preventable adverse event[22]. Doctors were asked for their main reasons for determining that the harm was preventable, and in 58% of the cases, they stated that "Error was related to medical judgment, skill or patient management", in 46% "Appropriate treatment was provided in a sub-standard manner.", in 17% "Necessary treatments were not provided" and in 14%, such "Events rarely happen when proper precautions and procedures are followed".[23]

Doctors as barriers to patient safety

Clinical leadership, where doctors are engaged deliberately in management, leadership and systems change, is being touted increasingly as a means of improving quality of care[24]. Research has shown that evidence supporting this positive proposition is scant,

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[21]   Webb et al 1993- see note 20: page 522.

[22]   In this study, 13.5% of Medicare patients experienced an adverse event and another 13.5% experienced an event that caused temporary harm – study doctors found 44% of the adverse events to have been preventable. See Department of Health and Human Services (USA), Office of the Inspector General. *Adverse events in hospitals: National Incidence among Medicare Beneficiaries*. Inspector General: Daniel Levinson. OEI-06-09-00090, November 2010: pages i-ii., and Table F-2 in Appendix F, page 48.

[23]   Department of Health and Human Services Office of the Inspector General (USA). *Adverse events in hospitals: National Incidence among Medicare Beneficiaries*. Inspector General: Daniel Levinson. OEI-06-09-00090, November 2010: pages 24-25, and Table 8, page 25.

[24]   See eg, Health Workforce Australia. *Leadership for the sustainability of the health system: Part 1- A Literature Review*. 2012 Health Workforce Australia, Adelaide: see especially pages 20-22. Hamilton P. Spurgeon P. Clark J. Dent J. Armit K. *Engaging Doctors: can doctors influence organizational performance? Enhancing engagement in medical leadership.* 2008 National Health Service Institute for Innovation and Improvement and Academy of Medical Royal Colleges, London; The King's Fund. *Leadership and engagement for improvement in the NHS – Together we can.* Report from the King's Fund Leadership Review. 2012 The King's Fund, London.

but that the negative impact of lack of medical engagement is clear.[25] Whether or not doctor engagement does improve quality of care, doctor conduct can be a powerful barrier to the adoption of patient safety changes, and the adoption of other quality practices. The research shows that "by virtue of their power and position, doctors are able to block or confound the efforts of managers or politicians to impose change via top-down mechanisms"[26]

For example, despite the championing by the Royal Australasian College of Surgeons, in the evaluation of the Australian adoption of the Correct Patient, Correct Site, Correct Procedure Protocol, Healy noted:

> The protocol opened up another arena for hospital power battles: between managers and clinicians over medical governance, between doctors and nurses over medical dominance, and between specialty groups over professional cultures since each of the surgical specialties had different checking procedures.[27]

A quote from a Director of Surgery in the evaluation showed the negative "trickle down" impact of doctor opposition to the protocol:

> We ran it past the surgeons at our meeting and nobody was particularly negative. But nothing happened for a while except for some stalling. Then the objections started. The surgeons said it was another example of bureaucracy gone mad. The nursing staff said if the surgeons aren't taking it seriously, why should we. It's not a nursing problem. The anaesthetists said, yes it should happen, but it's not our problem, the surgeons need to take responsibility.[28]

Where doctors are reluctant to engage fully with efforts to reduce preventable patient harm, this is likely to negatively affect the willingness and capacity of the entire health system to achieve such a reduction. At the very least, medical reluctance will create a significant impediment to adoption of change.

A quintessential characteristic of a dominant profession is its "ultimate control over its own work"[29], and through the hierarchical nature of hospitals and other settings in

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[25]   See Hamilton et al - note 24: page 5. See also Dickinson et al 2008 – see note 26: page 2.

[26]   Dickinson et al 2008 – see note 16: page 2.

[27]   Healy J. *Safe surgery in Australian hospitals: implementation of the correct patient, correct site, correct procedure protocol.* Occasional Paper 12. September 2008, Regulatory Institutions Network ANU, Canberra: page 21.

[28]   Healy 2008 - see note 27: pages 21-22.

[29]   Freidson E. *Profession of Medicine: A Study of the Sociology of Applied Knowledge.* 1970 (2nd edition -1988 Impress) University of Chicago Press, Chicago: see especially chapters 2 and 9.

which medicine is practised, this control impacts on all other participants – nurses, other health professionals, and patients, carers and families alike. The power traditionally exercised by doctors in healthcare also impacts on the regulatory tools which may be needed to bring about safer care.[30] As Healy said:

> The health professions are being pressed to strengthen their internal governance, embed patient-centred standards, and engage in partnerships with external regulators. Reliance upon self-regulation by the health professions is no longer acceptable, and is giving way to co-regulation, meta-regulation to ensure professional bodies regulate their members satisfactorily, and command and control intervention by the state in strengthening the legislation governing health professionals.[31]

Research on clinical leadership concludes that the engagement of doctors in patient safety appears to be a *necessary but not sufficient* requirement for success. Addressing the opposition or inertia of doctors in relation to patient safety is therefore necessary. This requires a better understanding of the individual and collective psychology of doctors.

C.   The pivotal role of the conduct of individual doctors

Conduct by doctors contributes to preventable patient harm in many ways, because of their multiple roles in healthcare. The first is the direct role doctors have in individual patient care – what is sometime called the "pointy end" of medicine in the patient safety literature. Patient harm caused by or contributed to by doctor conduct of this kind can arise from:

- Human errors of commission made by doctors, for example: where a wrong diagnosis is made; where wrong tests are conducted; where there are poorly or incorrectly performed procedures; where slip-lapse performance errors occur; where wrong procedures are followed and the many human errors identified in the studies discussed above;

- Human errors of omission, where doctors do not act, such as: omitting to check test results or to conduct appropriate tests; failing to diagnose a condition despite a

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[30]   For an excellent discussion of this issue, see Healy J. *Improving healthcare safety and quality – reluctant regulators*. 2011 Ashgate Publishing, Surrey (UK).

[31]   Healy 2008. – see note 30 at pages 127-128. For examples of the types of regulatory tools fitting under each of these categories, see Figure 1.1, page 5.

patient having clear symptoms; not investigating symptoms reported by a patient or their carer; not washing hands or following sterile procedures;

- Violations or deliberately unsafe acts, such as: choosing not to follow a protocol, procedure or other measure; choosing not to follow evidence-based guidelines; choosing not to inform a patient about some treatment options or about their risks and benefits;

- Practices driven by various conflicts of interest, which are not disclosed to a patient, but which may expose a patient to greater risk of harm, for example: referring a patient to a hospital in which a doctor has a financial interest when this may not be the safest option for the patient; prescribing drugs promoted to the doctor by a drug company when safer drugs are available; referring patients for tests or carrying out procedures motivated by fear of litigation (so-called "defensive medicine"); recommending treatment influenced by the doctor's specialty or "normal" process, when either another medical specialty may be more appropriate or safer or when "watchful waiting" is the best practice choice;

- Not knowing about and not developing safeguards or patient protective strategies against the specific errors that are more likely in their kind of practice or with their specific skills, for example: the cognitive "grouping" skills required for accurate diagnosis can result in inappropriate categorisation based on prejudices or stereotypes; the "quick thinking" required in emergency treatment may not always be the safest or best approach for a patient when there is less urgency; and

- Not recording or reflecting on the outcomes of patients who have a clinical interaction with the doctor, to determine whether there has been any preventable harm done to the patient, and thus not addressing what should be done either to help this patient or prevent harm happening again.

Doctors also have crucial patient harm prevention roles in systems of care – for example, as members of care teams, as identifiers of risk, as notifiers of patient harm, as clinical leaders, and as models for and educators of less experienced or trainee doctors. Again, patient harm can be caused or contributed to by doctor conduct, both actions and inactions, in these areas, for example:

- Through actions which increase the risk of team members not "speaking up" if they have a patient safety concern, for example: by encouraging and maintaining power differentials; by abusing or criticising staff who ask questions; by not recognising or

using the skills of other team members where appropriate, where this failure can result in risk of harm to the patient;

- Through not acknowledging or speaking up about known human limitations in the design of systems of care, for example: relating to fatigue, stress and attentional capacity;

- Through not raising concerns about unsafe or out-dated practices, when they are aware of new information or that the patterns of care create risks to patients;

- Through not reporting or recognising patient harm when it occurs, and not engaging in the development of systems to look at the outcome for every patient, where treatment is provided or a diagnosis is made, to check for unnoticed harm;

- Through not learning about, understanding and reporting identified risks in their own practice or in care provided by others, for example: the impact of external stresses on their capacity; the conduct of fellow doctors who put patients at risk through ill-health or sub-standard performance; equipment that malfunctions; and

- Reluctance or refusal to participate in the review of individual patient outcomes from their care team and to reflect on whether their own teams' practices are delivering safe and quality care for their patients.

At a patient safety organisation level, doctors also have important and unique roles, for example, in Medical Colleges, on hospital committees, protocol and guideline development, implementation and maintenance, peer review, determining credentialing rights on performance data, and engagement in accreditation processes. The positive role of doctors in these processes is fundamental to achieve effective systems and hence to reduce or eradicate preventable patient harm. Individual actions or failures to act can contribute to patient harm at this level as well.

Patient safety theory has tended to identify problems arising here as "system failures", but these systems are all the product of the actions and inaction of individual people and groups of people. The "system" is not an external, amorphous entity, separate from the people involved in its existence. Those who knowingly fail to act to prevent patient harm at the "system" level and those who do not look to see if there is preventable harm occurring, can also be considered responsible for the continuation of preventable patient harm, particularly where they are in leadership positions. Such inaction also provides an environment where mediocre care can come to be seen as normal, acceptable practice by those not in leadership roles.

Responsibility of this kind is not like individual blame for making an error or causing patient harm. Rather, this sense of responsibility is akin to the concept of "reactive fault" developed by Brent Fisse in relation to criminal responsibility in corporations[32]. Under this model of responsibility, doctors and health administrators, as the responsible actors at the top of the hospital hierarchy, would have a legal responsibility to prevent harm and to restore the consequences of any failures to act. Liability would not arise from making the mistake or causing the harm, but from the failure to act to prevent repetition.

Because of the power of doctors within the clinical relationship, the clinical team, within healthcare generally, and in hospitals in particular, the influence of doctors in relation to patient safety issues extends beyond individual action and inaction, to shape the culture of healthcare. This power can either contribute to or reduce the tolerance of healthcare to preventable patient harm. The importance of an appropriate culture in reducing preventable patient harm has been the subject of much discussion in patient safety literature[33] and in boards of inquiry into specific problems[34]. While culture has often also been attributed to "the system", the culture of an organisation, a team and a practice is made up, again, of many individual's actions and inactions, within a framework of values. Doctor conduct currently dominates and shapes the norms and values at each level. If doctor conduct is consistent with the primacy of patient safety, this can create a rich and responsive environment, with an embedded focus on preventing harm to patients. The obverse is also possible.

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[32]   Fisse B. Reconstructing corporate criminal law: deterrence, retribution, fault, and sanctions. 1983 *Southern California Law Review*, volume 56, pages 1141-1246: see especially pages 1195 and following. There is a comprehensive discussion of the concept of "reactive responsibility" in Cane P. *Responsibility in Law and Morality*. 2002 Hart Publishing, Oxford: at pages 36-39.

[33]   See eg, Mannion R. Davies H. Marshall M. *Cultures for performance in healthcare*. 2005 Open University Press, Berkshire (UK); Runciman B. Merry A. Walton M. *Safety and ethics in healthcare: a guide to getting it right*. 2007 Ashgate Publishing, Aldershot (UK): see especially pages 271-273.

[34]   See eg, Healthcare Complaints Commission (NSW) (chair: Amanda Adrian). *Investigation Report: Campbelltown and Camden Hospitals Macarthur Health Service*. December 2003; Inquiry into obstetric and gynaecological services at King Edward Memorial Hospital (chair: Neil Douglas). *Final report*. November 2001; Mid Staffordshire NHS Foundation Trust Public Inquiry (chair: Robert Francis QC). *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry – Executive Summary*. February 2013.

D. The potential risks of focussing primarily on "the system"

1. Diversion of attention from other factors

One of the key tenets of the system approach is that most patient harm doesn't come from bad people intending to do harm, but from good people[35] making errors in flawed systems, where they are trying to do their best. The key element of the "Good people, flawed systems" meme is the assertion that most medical errors are caused by "the system". For example:

> As modern medicine has evolved, emphasis has been placed on the character and skill of the physician as the decision maker and guarantor of correct and appropriate care. All too often, healthcare leaders assume that quality care can be ensured and mistakes avoided if they have good people working hard for them. However, an ever-increasing body of evidence indicates that at least 80 percent of medical error is system derived – meaning that system flaws set up good people to fail.[36]

Such assessments have militated against individual or collective action on preventable patient harm. People have seen as futile any individual attempts to change harmful outcomes of "the system".

Available data does not provide evidence that system errors *cause* most adverse events. For example, data from the Quality in Australian Health Care Study showed that almost 57% of all causes of adverse events were associated with some form of "cognitive failure", such as failure to synthesise, decide or act on available information (15.8% of the adverse events) and failure to request or arrange an investigation, procedure or consultation (11.8% of the adverse events). These cognitive failures were associated with most of the highly preventable adverse events and most were found to have caused significant disability. In addition, 19.6% of adverse events involved treatment errors, more than half of which involved no or inadequate treatment, and another quarter involved wrong or inappropriate treatment.[37] While there are certainly system contributors or a lack of system defences in these cases, the focus on "system" causes alone fails to recognise and acknowledge the central role of individual human conduct

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[35]   The implications of the coalescence of moral virtue and good work performance in this tenet is something which will be discussed further in Chapter 4.

[36]   Frankel L. Frankel A. Simmonds T. Vega K. *Achieving safe and reliable healthcare: strategies and solutions*. 2004 Health Administration Press, Chicago: page 5.

[37]   Wilson RMcL. Harrison BT. Gibberd RW. Hamilton JD. An analysis of the causes of adverse events from the Quality in Australian Healthcare Study. 1999 *Medical Journal of Australia*, volume 170, pages 411-415.

and to look at ways of influencing this, thus thwarting or delaying effective and appropriate action.

Patient safety experts argue that a system focus is necessary for putting defences in place, given that human error is ubiquitous in healthcare as in life generally. For example, citing the above 80% statement as its source, the Institute for Healthcare Improvement's *Leadership Guide to Patient Safety* said:

> Approximately 80 per cent of medical errors are system-derived. Good people simply working harder will be insufficient to overcome the complexities inherent in today's systems of care to prevent errors and harm to patients. Errors will occur; the key is to design the care delivery system so that harm does not reach the patient.[38]

What is often overlooked in these analyses is that individuals and groups of people are needed to design safer care systems and to enact "safer systems". The model of understanding patient harm in terms, principally, of system failure led to calls for a "no blame" approach to medical error and preventable patient harm. This approach initially was very popular among doctors and was seen as a gateway into doctor engagement with patient safety:

> [A No-blame approach] was politically expedient … [i]n the USA particularly, where mentioning 'medical errors' to a doctor immediately evokes near-Pavlovian thoughts of being named in a malpractice suit, the 'no-blame' approach represented the only hope to engage physicians in safety efforts.[39]

While Reason's analysis is often given as a justification for such an approach, he was clear in his criticism of such an interpretation of his work. In his 1997 book *Managing the risks of organisational accidents*, where he discusses the need for a safety culture, he specifically denies the appropriateness of a "no-blame" approach, instead putting forward the concept of a "just culture".

> A 'no-blame' culture is neither feasible or desirable. A small proportion of human unsafe acts are egregious (for example, substance abuse, reckless non-compliance, sabotage and so on) and warrant sanctions, severe ones in some cases. A blanket amnesty on all unsafe acts would lack credibility in the eyes of the workforce. More importantly, it would be seen to oppose natural justice. What is needed is a *just culture*, an atmosphere of trust in which people are encouraged, even rewarded, for providing essential safety-related information –

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[38]   Botwinick L. Bisognano M. Haraden C. *Leadership Guide to Patient Safety*. IHI Innovation Series White Paper. 2006 Institute for Healthcare Improvement, Cambridge (Massachusetts): page 2- see also footnote 3.

[39]   Wachter RM. Personal accountability in healthcare: searching for the right balance. 2013 *Quality and Safety in Heath Care*; volume 22, pages 176-182: at page 176.

but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.[40]

The concept of a "just culture" has begun to be explored in the literature[41], but the dominant theme of public medical discourse has remained "no-blame" and "systems-focus". While acknowledging that, in most cases, the occurrence of human error does not imply wrongdoing in a moral sense, this thesis argues that the almost exclusive focus on the "system" has meant that other causes and contributing factors to on-going high levels of preventable patient harm have not been explored[42].

At the most basic level, it has meant a reluctance to look at individual behaviour and how that is shaped, despite strong evidence that human error remains at the core of preventable patient harm. The Quality in Australian Healthcare Study showed that 81.8% of adverse events were associated with one or more human error categories, and in those adverse events with high preventability, only 0.7% were *not* associated with a human error.[43] This data does not mean that some of the human errors were not contributed to by "system factors" but it shows that understanding more about individual human errors is an important prerequisite to understand harm causation. While it is important to look at the systems in which healthcare is provided to improve patient safety, the establishment of this false dichotomy between system factors and factors that are based in individual conduct has meant attention has been diverted outward away from a fuller understanding of the complex symbiotic relationships between the "system" and the individual people and groups of people who make it up.

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[40] Reason J. *Managing the risks of organizational accidents*. 1997 Ashgate Publishing, Aldershot (UK): page 195

[41] See eg, Dekker S. *Just culture – balancing safety and accountability*. 2012 Ashgate Aldershot (UK).

[42] It is also true that in any complex organisation like health care there are often multiple systems and a safe system would need to tease out these and their interactions. A doctor can often be in several of these intersecting systems as well, sometimes in different roles: eg, a doctor may be a trainer of junior doctors and medical students, a trainee in a specialist College and Registrar employed in a hospital.

[43] Wilson RMcL. Harrison BT. Gibberd RW. Hamilton JD. An analysis of the causes of adverse events from the Quality in Australian Healthcare Study. 1999 *Medical Journal of Australia*, volume 170, pages 411-415; at pages 412-413.

2. A system focus displaces and diffuses individual responsibility

Individual doctors (and nurses and administrators) often do not see that they have any individual responsibility to take action to address preventable patient harm when it is attributed to "the system". The "system" is seen as existing outside them and their sphere of influence. Any sense of personal responsibility to change what they are doing to prevent patient harm is thus reduced. As noted earlier, doing no harm to patients is a key element of most doctors' perception of their moral selves and so the reduction of preventable patient harm would have been expected to be a top priority. However, it can be argued that the focus on "systems" has facilitated selective disengagement of medical moral agency. This reduction in moral agency occurs through both the displacement and the diffusion of responsibility for action to prevent patient harm, inherent in a system focus. As Bandura said "Moral control operates most strongly when people acknowledge that they are contributors to harmful outcomes"[44].

Displaced responsibility arises when "the system" is seen as responsible. The logic of such reasoning states that if the system is responsible and the system is separate from the people in it, individuals do not see themselves as the potential agents of their own preventive actions. Displacement of responsibility can also occur when someone is kept intentionally uninformed or where someone chooses "not to know".

Diffusion of responsibility also weakens personal agency. For example, where "the system" is seen as the problem, the notion of who is responsible to address the problem becomes unclear. If it is seen as a group responsibility, this also leads to a diffusion of responsibility -"When everyone is responsible, no one really feels responsible".[45] Everett C Hughes in his 1951 essay on "Mistakes at Work" goes so far as to say that in types of work where errors are frequent such as medicine, the collegial and structural systems involve the development of a "collective rationale … and defences" that tend to "spread the risk psychologically, morally and financially."[46] Some of these risk and guilt sharing practices include: supervision, consultation, cross-coverage and case

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44   Bandura A. Selective exercise of moral agency. Chapter in Thorkildsen TA. Walberg HJ. (editors) *Nurturing morality*. 2004 Kluwer Academic, Boston, pages 37-57: at page 42.

45   Bandura A. 2004 – see note 44: at page 44.

46   Hughes EC. Mistakes at Work. 1951 *Canadian Journal of Economics and Political Science,* August, volume 17(3), pages 320-327:at page 321.

conferences[47]. These all constitute processes of displacement and diffusion of responsibility, which can undermine an individual's sense of moral agency to identify or reduce the incidence of preventable patient harm.

An illustration of this occurred in relation to the highly critical series of reviews of the Mid Staffordshire Foundation Trust in England[48]. Following the release of the final report of the last Public Inquiry, the Chief Executive of the English National Health Service was asked to give evidence before the United Kingdom House of Commons Health Committee, which was considering the findings of the inquiry and the role played by Sir David Nicholson. Nicholson was, at the relevant time, Chief Executive of the Strategic Health Authority in which the Mid Staffordshire events occurred. Having admitted that he didn't know of the unusually high death rate at the facility because that was not what was reported to him, he was extensively questioned about accountability and responsibility for the "system" failures[49]. His evidence was summarised by a reporter in the following manner:

> In any case, he wasn't going to resign. Indeed, listening to him, you might have formed the impression that no one should resign. This was because the blame lay not with actual people but with a mysterious and sinister-sounding entity known as "the system". "The system did not take seriously enough the input of patients" lamented Sir David. "Patients were not the centre of the way the system operated. … No culture of sharing information across the system … A basic system problem … A big failing in the whole system…" The system. The system. He might have been a character in a sci-fi film analysing a computer failure on a space ship. Rather than, say, the head of the NHS explaining why patients were given no water to drink, or left to lie in sheets soaked in urine.[50]

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47   Bosk CL. Continuity and change in the study of medical error – the culture of safety on the shop floor. Occasional Papers of the School of Social Sciences, Paper Number 20. February 2005 Unpublished: accessed 17 March 2014 at http://www.sss.ias.edu/files/papers/paper20.pdf : page 3.

48   There have been three major inquiries into the problems identified in Mid-Staffordshire – a Healthcare Commission Report in 2009, an Independent Inquiry conducted by Robert Francis QC which published a two-volume report released in 2010 and a Public Inquiry also conducted by Francis, which produced a 3 volume report, which was released in 2013. All documents are available on the Inquiry Website at http://www.midstaffspublicinquiry.com/

49   Full evidence given at the UK House of Commons Health Committee on 5 March 2013 on this issue by Sir David Nicholson can be viewed on http://www.parliamentlive.tv/Main/Player.aspx?meetingId=12729 : for discussion on system failure and accountability, see especially the interchange between Andrew George MP and Sir David Nicholson at 10:16:49 am and following.

50   Deacon M. Sketch: Need an excuse? You can't beat 'the system'. 2013 UK Telegraph, 5 March 2013: sighted 17 June 2013 at http://www.telegraph.co.uk/news/politics/9910554/Sketch-Need-an-excuse -You-cant-beat-the-system.html.

Where health administrators, doctors and others in positions of organisational power in health blame "the system", they often do not recognise that it as their job to prevent patient harm continuing to occur. The system focus allows them to avoid personal responsibility for their role in preventable patient harm and their moral obligation to ensure harm is prevented from occurring again. As has been recognised in the literature on selective moral agency, where "the system" is seen to be at fault or to have failed, the result is often that no-one sees it as their responsibility to address the problem.

3. The system is composed of individuals

There has also been a general failure to recognise that health professionals are, in fact, major actors in "the system" with the capacity to change and re-design "the system" to be safer. Those in positions of power and leadership, like doctors and other clinical and non-clinical healthcare leaders, are responsible for a significant part of the design, operation, maintenance and change of the complex, inter-related systems that compose healthcare. They may also be responsible for failing to report failures or criticisms which they observe or become aware of in these "systems".

Again, the Mid Staffordshire experience shows the dilution of responsibility that can occur when only "the system" is seen as accountable. The National Health Service Medical Director, Sir Bruce Keogh was asked by Andrew George MP in the United Kingdom House of Commons Health Committee about who would, in future, be accountable for systemic failures, such as a failure to improve patient safety and care following the findings of the second Francis Report. Keogh outlined the three levels of accountability proposed – at the clinical level, the Trust Board level and the regulator level:

> Andrew George MP: So, we've got accountability at the clinical level, the Trust Board level and then the regulators, but the people who design the system – they are not accountable.
>
> Sir Bruce Keogh: Well, of course, the people who design the system are accountable.
>
> Andrew George MP: In what way? … with the Mid-Staff's we had "systematic failure", that was "system's failure". Who designed the system? Who created the system? Who analysed the system?

Sir Bruce Keogh: I have no idea who designed the system.[51]

A singular focus on "the system", which ignores individual actions and inactions that compose the system, can thus sometimes be used as a diversionary tool for those who would otherwise have to take responsibility and act. It also provides a convenient and reassuring base for denial of responsibility. It resolves any cognitive dissonance that arises when a doctor's individual psychological identity is affronted by the occurrence of preventable patient harm. Similarly, calls for the need to change the "culture" of medicine and hospitals often fail to recognise or acknowledge that the cultures of a profession and an institution are created through the values and actions of individuals within the profession and the institutions. To change a culture, the actions and values of the people in it need to change.

4. A system focus has shaped data collection

A "system" approach has even shaped the data collection surrounding preventable patient harm in a way that has limited the usefulness of what is collected and discouraged attention to information collected about, and perhaps contributed to, by patients. Instead of a focus on the clinical encounter which can provide data that is more meaningful to both doctors and patients (such as patient outcomes data), what has been collected has often related to process failures. These may be more readily "countable" but may not be seen by doctors as effective meaningful measures "at the bedside". This can reduce the quality of the data, because it becomes seen as data collection for data collection's sake, rather than being a bi-product of what the doctor sees as his or her priority –the clinical care of the patient.

Similarly, the lived experience of patients or the observations of their carers that are relevant to determining quality and safety in healthcare are often marginalised and not included in data collected. This is often argued to be because patient or carers do not know what to expect, and so their reports are likely to be unreliable and not useful. However, the general absence of consumer-focussed outcome data and the significant under-reporting of preventable patient harm by doctors leads to an incomplete picture of

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[51] Full evidence given at the UK House of Commons Health Committee on 5 March 2013 can be viewed on http://www.parliamentlive.tv/Main/Player.aspx?meetingId=12729 The exchange here was transcribed by the thesis author from this broadcast. The full evidence from which it is extracted can be found from12:12:01pm to 12:15:40pm.

the performance of both systems of care and individuals within the system. Consumer experience of the system is not effectively used to examine the safety performance of healthcare in most hospitals and community settings[52], because the "system" defines its own measures of success. The ubiquitous joke about the surgeon who tells the family that surgery was a success, but unfortunately the patient died, is a black humour example of the way the system focus has tended to shape data collection.

E. Doctors as the legally responsible actor – the mixed "system" message

Despite the significant focus on the "system" as the cause of preventable patient harm in the last 15 years, when a patient is harmed in healthcare and legal action is taken by the patient, the doctor is generally sued personally rather than as part of the responsible "system". For example, he or she is usually personally named in the litigation and his or her personal medical indemnity is invoked (often by the hospital) to provide at least partial recompense to the patient for the harm, depending upon the contractual arrangements between the doctor and the hospital in which the services were provided. For many doctors, the perception is that the "system" approach is shallow and does not protect a doctor when most needed. This can lead to doctors distancing themselves from "the system" and, not unreasonably, they may feel abandoned by it. Under these arrangements, hospitals, governments and other liability funders benefit financially from the doctors' medical indemnity insurance. There has always been another "system" based alternative called "enterprise liability", which is a legal arrangement similar to vicarious liability for an employee's actions, but which focuses on all who participate in "the enterprise", not just employees[53]. However, this is not widely used.

While the threat of litigation is much lower than many doctors believe, the risk-averse approach of many health-system risk managers is antithetical to the "no blame" culture

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[52] There are some exceptions to this – the development of Patient Reported Outcome Measures over the past 30 years has been one example, but few of these are routinely collected. See Nelson E. Eftimovska E. Lind C. Hager A. Wasson JH. Lindblad S. Patient reported outcome measures in practice. 2015 *British Medical Journal*, 10 February, volume 350, article g7818 at http://dx.doi.org/10.1136/bmj.g7818

[53] Review of Professional Indemnity Arrangements for Healthcare Professionals. *Compensation and Professional Indemnity in Healthcare – Final Report*. November 1995. Australian Government Publishing Service Canberra (PIR Final Report): "Enterprise liability – a different model" at paragraphs 9.137 -9.141. This model applies a more truly "systems" approach to liability, by a collective acceptance of liability and financial consequences.

discussed in the system paradigm. It can also be antithetical to the "just culture" paradigm as well. The legal concept of negligence awards damages on the degree of loss suffered rather than the degree of wrongdoing of the defendant. This mismatch between the degree of moral wrong-doing associated with doctor's action and the damages which may be payable often results in medical outrage or distress, partly because of a lack of understanding of the basis for damages. A damages award for the consequences of a momentary lapse, which fulfils the legal definition of negligence but for which most doctors will feel sympathy, is seen by many doctors as unreasonable punishment, even where they are covered by insurance. While a key reason for the existence of the tort system is the allocation of financial losses associated with an injury, the tort system is founded on a "failure of a duty of care". Such language generally invokes feelings of both personal and professional shame in a doctor. Where the doctor sees the injury as an "innocent mistake", they see the damages paid as unjust punishment. The sociologist Charles Bosk describes this phenomenon as the "contested concept" of error in medicine.[54]

One consequence is that doctors generally feel unsafe and under threat, just in case a patient suffers harm in their care. The whole practice of so-called "defensive medicine" is argued to be a consequence of the need to allay this fear[55]. In some situations, a doctor performing the defensive medicine gains a financial advantage from so doing, so not all "defensive medicine" is driven by fear alone. Equally not all fear-driven practice change has been negative. Fear of complaint or litigation has led to improved practices, such as better record-keeping and better explanations of risks to patients, which can lead to better patient care and outcomes[56]. However, because defensive practices are not focussed on likely benefit to the patient but rather protection of the doctor, it is of concern[57]. Where a defensive treatment is invasive, it may give rise to additional risks to the patient. At the very least, it adds costs to the healthcare system, through unnecessary or poorly directed testing.

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[54]   Bosk 2005 – see note 47: accessed 21 August 2013.

[55]   See eg, Hancock L. *Defensive Medicine and Informed Consent. – A Research paper*. Prepared for the Review of Professional Indemnity Arrangements for Healthcare Professional. May 1993 Australian Government Publishing Service, Canberra.

[56]   Mulcahy L. *Disputing doctors – to socio-legal dynamics of complaints about healthcare*. 2003 Open University Press, Maidenhead (England): pages 108-109.

[57]   PIR Final Report 1996 – see note 53, paragraphs 5.215 to 5.217.

The work for this thesis started with a widely-held assumption that in fact, fear of litigation in a fault-based system resulted in the under-reporting of adverse events, the high incidence of preventable patient harm and the lack of action on prevention. Analysis of the various studies in Chapter 1 show that preventable patient harm and poor reporting of patient harm occur across all jurisdiction, representing many different litigation and compensation cultures. High levels of harm and low levels of reporting appear to be universal problems, regardless of the nature of and basis for compensation for those who suffer preventable harm in healthcare. This has been noted in passing by others, with a range of reasons being postulated for the consistency of these issues across diverse countries[58]. Some of these relate to the so-called "culture of medicine". With the formal setting of international standards for medical training[59], and the replication of similar hospital-based intern training processes across the world, a common professional culture transcends national boundaries. Other discussion has focussed on doctor self-perception and group identification between doctors. The common education and training processes of doctors and the self-beliefs created in this formative environment have shaped a recognisable self-identity for those who go through this professionalisation process, referred to in this thesis as the Doctor Identity.

F.   People as complex systems

The earlier part of this chapter described some of the complex roles of doctors within the broader healthcare system, that may give rise to preventable patient harm. The health system is complex, and the development of durable and consistently effective ways of addressing patient safety has proved to be a "wicked problem[60]", not readily

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[58]   See eg, Robbennolt JK. Apologies and Medical Error. 2008 *Clinical Orthopaedics and Related Research*, 30 October, volume 467, pages 376-382.

[59]   The World Federation for Medical Education, which was established in 1972 under the auspices of the World Health Organisation, set about establishing agreed international standards on medical education in 1997. For further information go to: http://wfme.org/standards, viewed 18 January 2016. Prior to this international effort, there were national variations, but in countries which have an English or European medical history, the common heritages within the profession across nations created a similar "culture".

[60]   The theory of "wicked problems" was first expounded by Horst Rittel and Melvin Webber in 1969 and published in 1973. Rittel HWJ. Webber MM. Dilemmas in a general theory of planning. 1973 *Policy Sciences*, volume 4, pages 155-169. A more recent exposition by Jon Kolko describes a wicked problem as "a social or cultural problem that is difficult or impossible to solve for as many as four reasons: incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with other problems". Kolko J. *Wicked Problems: Problems worth saving – A Handbook and A Call to Action*, 2012 Austin Center for Design, Austin (Texas): page 10.

solved despite it being widely acknowledged in public discourse. The external complexity is compounded with the internal complexity of all human beings and their emotional and psychological responses, shaped at the biological level.

When the high risk of preventable patient harm came to significant public attention in the decade between 1995-2005, the knowledge base to address "systems failures" in organisations had achieved some maturity in an academic sense, following the ground-breaking work of Rassmussen[61] in the 1980s and Reason in the 1980s-90s.[62] These authors identified the types of human behaviours and situations likely to result in error and harm. Their contribution helped popularise the understanding of the complex web of causation which could set up a situation where harm was an "embedded pathogen" waiting to express itself in any complex system. In turn, this moved the medical discourse about "adverse events" and "medical error" away from a more simplistic, individualistic tort law based approach, which was designed to find someone to blame who could pay damages.

It is argued in this thesis that a system perspective was a necessary, but not sufficient. step towards safe and effective patient safety-centred healthcare. There was another body of knowledge which was emerging about human performance vulnerability, based in human biology. Neuroscience and the biological bases of psychology, human emotions and "reason" has, over the last decade, moved into centre stage, to explain why human beings sometimes act or fail to act, when there is a known problem to be addressed. This thesis argues that a broad understanding of these developments is core to progress in relation to patient safety, and to assist doctors to have greater well-being. It is not just the complexity of external systems that are relevant to understanding human error and preventable patient harm. The complexity of the internal systems in each and every doctor, and their collective professional identity, has created corresponding internal system strengths and vulnerabilities.

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[61]   Rasmussen J. Human errors – a taxonomy for describing malfunction in industrial installations. 1982 *Journal of Occupational Accidents*, volume 4, pages 311-333; Rasmussen J. Skills, rules and knowledge; signals, signs and symbols and other distinctions in human performance models. 1983 *IEEE Transactions on systems, man and cybernetics*, volume SMC-a3(3), May/June, pages 257-266.

[62]   Reason J. *Human Error*. 1990 Cambridge University Press, Cambridge. Reason J. *Managing the risks of organizational accidents*. 1997 Ashgate Publishing, Aldershot (UK).

G.   The Doctor Identity

Most analyses of human psychology and neuroscience have, at their core, consideration of how a person sees themselves and how they believe they are seen by others. Not a theme limited to psychology, it was also described in the important sociological works of Canadian-American Erving Goffman between 1959-1981[63]. The growing understanding of neuroplasticity and the ability to scan brain activity in real time have shown interrelationships between the physical brain, thoughts, actions and emotions. A person's sense of identity and their responses to threats to that identity can create biological wiring in neural circuitry, which fundamentally affects future behaviours and perceptions. The possible impact on doctors of these neurobiological processes and the consequent impact on their approach to identifying and acting on preventable patient harm are the subjects of Chapter 3 below.

The scientific understanding of neuroplasticity - the ability of the brain to adapt and change throughout life - has undergone exponential growth since the middle of last century. For a long time, the relationship between the physiology of the brain as an organ and "the mind" were poorly understood.   The brain was seen as a physiological "machine" of fixed capacity, with little power to change and the creator of automatic behaviours and reflexes that were "hard-wired"[64]. For many years, there was a view that there was a single period of development of the brain in childhood, and after that, it became, to a large extent, fixed[65]. Once damaged, it was generally seen as unrepairable[66]. The mind was seen as non-physical and linked somehow to the concept

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[63]   Erving Goffman's books related to this topic include: *The presentation of self in everyday life* (1959), *Asylums – Essays on the Social Situation of Mental patients and other inmates* (1961), *Stigma – Notes on the Management of Spoiled Identity* (1963); *Frame Analysis – An Essay on the organization of experience* (1974); and *Forms of Talk* (1981) – for full details, see Bibliography.

[64]   Doidge N. *The Brain that changes itself.* Revised Edition 2010 Scribe Publications, Melbourne: see page xiii-xiv.

[65]   One of the earlier modern pioneer researchers into the plasticity of neurons, Santiago Ramon y Cajal, stated in 1913-14 that "nerve paths are something fixed, ended, immutable. Everything may die, nothing may be regenerated." Cajal SR. *Degeneration and regeneration of the nervous system.* Translated by RM May. 1928 Oxford University Press, London. For further discussion of Cajal's work and understanding, see Azmitia EC. *Cajal and brain plasticity: insights relevant to emerging concepts of mind.* 2007 Brain Research Reviews, volume 55, pages 395-405, who notes that "these descriptions of a static mature nervous system influenced neuroscience thinking for over 50 years.": at page 396.

[66]   The contrary to this, as it is has become known over the past decades, is described in Doidge N. *The Brain's Way of Healing – remarkable discoveries and recoveries from the frontiers of neuroplasticity.* 2015 Scribe Publications, Melbourne: especially Chapter 3 – the Stages of Neuroplastic healing – how and why it works.

of soul, which made it capable of change and learning. Over the four centuries since Descartes outlined these revolutionary ideas, a vast number of scientists, physicians, physicists and other have gradually learned how nerve tissue functions and passes information electro-chemically, how the brain and nervous system are not in fact hard-wired and unchanging, and that the operation of the mind and physiology of the brain and body are closely linked[67].

In 1890, the psychologist William James first used the term "plasticity' in relation the effect of behaviour modification on the habits of adults[68]. He saw these established patterns of behaviour as difficult to change, and at the core of social functioning[69]. The human cortex, which is responsible for sensory input, limb movements and most of the mental functions associated with being human[70], is now known to be highly changeable. A new understanding of brain plasticity has emerged which sees the brain and the whole nervous system in a much more dynamic way:

> [T]he nervous system [is] a continuously changing structure of which plasticity is an integral property and the obligatory consequence of each sensory input, motor act, association, reward signal, action plan or awareness. In this framework, notions such as psychological processes as distinct from organic-based functions or dysfunctions cease to be informative. Behavior will lead to changes in the brain circuitry, just as changes in the brain circuitry will lead to behaviour modifications.[71]

While the exact processes at work are still the subject of theoretical and practical study[72], this description of neuroplasticity shows both the promise and the threat of this vital characteristic of the human brain.

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[67]   For an excellent outline of this growth in understanding from Descartes to the period before the last 50 years, see Wickens AP. *A History of the Brain – from Stone Age Surgery to modern neuroscience.* 2015 Psychology Press, East Sussex: from chapter 4-13.

[68]   Pascual-Leone A. Amedi A. Fregni F. Merabet LB. The Plastic Human Brain Cortex. 2005 *Annual Review of Neuroscience*, volume 28, pages 377-401: see page 378

[69]   James W. *The Principles of Psychology. Volume 1*. 1890 Dover Publications, New York: page 121, where James states that "Habit is thus the enormous fly-wheel of society, its most precious conservative agent."

[70]   These more complex cortical functions include memory, language, abstraction, creativity, judgment, emotion and attention. See Swenson RS. *Review of Clinical and Functional Neuroscience*. 2006 Dartmouth Medical School, Dartmouth. Online version available at: https://www.dartmouth.edu/~rswenson/NeuroSci/index.html : see especially Chapter 11.

[71]   Pascual-Leone 2007 – see note 68: at page 379.

[72]   See for example, Shaw CA. McEachern JC. *Towards a theory of neuroplasticity.* 2001 Psychology Press, Philadelphia.

Firstly, the human brain and its processes arose evolutionarily to allow humans to adapt rapidly to changing circumstances to survive in an uncertain world. The plasticity of the brain provides an evolutionary survival advantage, in situations where to survive required the ability to move through different landscapes, physical and social situations and threat environments. When the environments change, a plastic brain can adapt to new conditions and experiences, and can develop appropriate responses much faster. These responses and any subsequent changes in the brain and neural systems can be positive or negative in terms of behavioural change, both immediately and in the future. For example, fear can provide immediate high energy in an emergency to allow action to avoid harm. It can also lead to long term avoidance or attack responses, which may or may not be useful and appropriate over time. It may lead to anxiety and on-going stresses that last well beyond the emergency. Plasticity allows all these adaptations – whether they are useful or not.

Secondly, changes happen in different ways in different parts of the brain. Where the brain is exposed to something perceived as a threat, the first adaptation is likely to occur in the lower parts of the brain – in the limbic system (particularly in the amygdala, which is activated by fear and triggers the brain's "first alarm system"[73]) and the brain stem, which manages the main autonomic and instinctual physiological responses eg blood pressure, circulation, breathing, digestion. The perception, awareness and memory of threat is a primal survival advantage and these parts of the brain physiologically prepare the body to respond to a threat. Because those parts of the brain do not distinguish between fear of being eaten by a predator or more psychological threats, it can be triggered relatively easily. This is commonly known as the "fight, flight or freeze" response and it results in a cascade of hormonal and physiological responses. The impact of this threat response will be discussed in more detail in Chapter 3. What is useful to understand is that threat-based responses in the brain, once triggered, are harder to change, because that is how they were designed. A human being's brain is shaped evolutionarily to remember and react to threats at a pre-conscious level, because sitting around and thinking as a predatory threat came close was not a useful survival strategy.

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[73]   Yoder C. *The Little Book of Trauma Healing.* 2005 Good Books, Intercourse (Pennsylvania, USA): page 19.

Thus, threat based awareness and responses are easy to "wire" and harder to disconnect in the brain. What is then required usually is the development of other pathways, which can moderate the threat pathways, using the "thinking" part of the brain. While plasticity enables this to occur, this takes time, awareness and practice, compared to the almost instantaneous, instinctive threat reaction.

A threat to identity is the psychological equivalent of the threat from a large carnivorous predator – it is a threat to existence, from the perspective of the person's psychological well-being. When someone's identity and sense of Self strongly coincides with their professional identity, a threat to that identity will give rise to the same psychological response. With the primary directive on doctors psychologically to "first, do no harm", preventable patient harm provides an immediate challenge to identity at many levels. Chapter 3 will look at how the neurobiology associated with threats to identity and other environmental factors associated with medical training and practice, such as long term stress and fatigue, impact on human beings and doctors in particular, especially in relation to preventable patient harm.

The self-identity of a Doctor involves complex and sometimes conflicting expectations which are discussed in greater detail in Chapters 4, 5 and 6. It includes high expectations of error-free performance, and a relationship of trust between the treating doctor and a patient, where the doctor will benefit, not harm, the patient. A doctor is expected to be both courageous and speedy in saving a life, to reflect on careful observations and to "know" everything necessary to cure someone. Many of these expectations create specific vulnerabilities and some even require conflicting skills. For example, a doctor who is able to leap in to save a life in an emergency, with a certain and steady conviction that he or she is always right, may have much more difficulty reflecting on uncertainty, where watchful waiting may be the appropriate strategy for the best outcome for the patient. Equally a doctor may have great technical skills but lack interpersonal skills, which can discourage a patient from communicating with him or her. Where a doctor sees particular characteristics as making a good doctor, these are generally internalised as part of their professional identity.

Both doctors and patient have, for various reasons, adopted an unrealistic concept of infallibility in medicine[74]. The strength of the various enculturation processes discussed in Chapters 5 and 6 occur within a "perfectibility model"[75].   Criticisms or apparent failures in patient care are seen not only as a threat professionally, but as a threat to their perception of themselves as a good person. There is significant evidence that where a patient complains about an error, a bad outcome or inappropriate interpersonal behaviours, a doctor's first response is to externalise the blame for any event and criticise the complainant. The limited research done in this area concludes that "Commonly, [for a doctor who has had a complaint made against him or her] the reconstruction of a positive sense of identity relies on deconstruction and undermining of the complainant and the complaint"[76]. The evidence for and consequences for doctors of the threat to identity caused by preventable patient harm is discussed in detail in Chapter 4. Chapter 3 first outlines some of the common human responses to such threats, and their neurobiological underpinnings.

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[74]   Leape LL. Error in medicine. Chapter 2 in Rosenthal MM. Mulcahy L. Lloyd-Bostock S. Medical mishaps – pieces of the puzzle. 1999 Open University Press, Buckingham (UK): at page 22.

[75]   Mulcahy L. *Disputing Doctors – the socio-legal dynamics of complaints about medical care.* 2003 Open University Press, Maidenhead (UK): page 105.

[76]   Mulcahy 2003 at note 75: page 104.

Chapter 3: Identity under threat – How human psychology and neuroscience can impact on patient safety

A.   *Defending the Doctor Identity*

This chapter outlines how the ordinary processes of human psychology amplify the likelihood of preventable patient harm in medical care, because such harm creates a threat to a doctor's identity. Threat responses include processes that cause errors and potential signs of patient harm to be hidden from a doctor's conscious awareness. Psychological defence processes can also thwart a doctor's recognition of his or her role in an error or preventable harm, even where it is brought to a doctor's awareness. For example, intrinsic uncertainty involved in much medical understanding, caused by variations in patient response and physiology, can serve as a defensive shield to an identity threat. Furthermore, when harm occurs and it is apparent, doctors may well have difficulty acknowledging their role in such an error or harm, even to themselves, because of the psychologically protective processes of cognitive dissonance.

The Chapter also examines the emerging understanding in neuroscience about the brain's response to threat. When threatened physically or psychologically, all human beings react initially by automatic defensive responses coming from the part of the brain that regulates autonomic and emotional responses (the brainstem, amygdala and limbic system), rather than the thinking part of the brain (the cortex). Specific skills and training are required to approach such threats in a more cognitively thoughtful manner, and for them to be able to be turned into "learning opportunities".

Not harming a patient is seen as a professional imperative, so when doctors are responsible for harm they can feel personal shame. This internalised shame can be compounded by fear of previously experienced or observed shaming processes which can occur in training and in peer review processes when an error occurs. Shame can significantly impact on a doctor's perception of themselves.

Often harm to patients results from errors which may not be considered morally culpable, but for which a doctor is nonetheless personally responsible. Slip/lapse errors are an

everyday example. The human nature of the error made is often overwhelmed by the consequences of the error. In particular, hindsight bias often results in harsh judgements of self or others, particularly where significant patient harm results from a simple error or missed or unavailable information. These biases, especially if exhibited by colleagues, can also contribute greatly to the underlying threat to identity experienced by a doctor. Anticipatory fear provides a background level of stress and elevated threat arousal. The emotions that occur when a threat becomes more concrete can also prime the limbic system which moves reactions from the thinking brain at a time when thought may be needed most.

The external observable consequences of all these factors and the undermining of personal and professional identity that can arise from an occurrence of preventable patient harm and error has wide-reaching effects. Not only is it likely to contribute to slow progress towards reduction in patient harm, but the long term psychological well-being of doctors and their resilience are also compromised. This can lead to emotional burnout and to people leaving the profession prematurely. In a concerning number of cases, the doctor commits suicide or suffers long-term trauma-related consequences. This serves neither patients nor doctors well. It results in high on-going personal and economic costs to users and providers of services in the health system, as well as the broader community.

B.   *Problems outside of the radar – the psychology of attention*

1.   The importance of conscious awareness

For errors and patient harm to be acted upon and prevented in future, they must first be noticed. A lack of conscious awareness of events can arise from multiple reasons, many of which are characteristic of modern healthcare environments. External factors include a busy and chaotic environment, with many distractions and competing demands for attention. Fatigue and stress can aggravate environmental inattention. Normalisation of some errors that occur frequently can result in a lack of recognition of their potential for harm or even that they have occurred.

All the triggers of awareness come through sensory input such as sight, hearing, smell or touch and this sensory input causes attention to shift to that input and to apply the thinking

brain to that input. For many centuries, it has been known[1] that a significant amount of additional sensory information enters the subconscious mind below the level of awareness, some of which can influence behaviour, emotional responses and even regulate what is "known" at the conscious level[2].

Lack of awareness can arise from what is called "inattentional or perceptual blindness". It may be affected by various unconscious strategies, employed by the mind to avoid fear and anxiety. It may also be used in pursuit of an overriding goal of the brain's executive function, which is centred in the pre-frontal cortex (a "cortical goal"). Such goals can include such things as acting consistently with one's sense of identity. Executive control in the brain governs planning, judgment, decision-making, anticipation and reasoning. A key role of this function is to sieve the potential sensory inputs speedily and efficiently at a pre-conscious stage to allow focus on and exclusion of material from attention:[3].

The leading cognitive psycho-physiologist, Professor Emanuel Donchin, argues that "information processing is largely pre-conscious or not available to awareness" that the executive function's selective approach to perception means that probably 99.9 per cent of

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[1]   For example, in 1704, Liebniz wrote:

>   …there are hundreds of indications leading us to conclude that at every moment, there is in us an infinity of perceptions, unaccompanied by awareness or reflection; that is, of alterations in the soul itself, of which we are unaware because these impressions are either too minute and too numerous, or else too unvarying, so that they are not sufficiently distinctive on their own

>   Leibniz GW. *New Essays on Human Understanding*. First published in 1765, but principally written in 1704, as a response to Locke's 1690 *Essay Concerning Human Understanding*. This quote is taken from the edition, translated and edited by Peter Remnant and Jonathan Bennett. 1981 Cambridge University Press Cambridge: page 53 - see also pages 52-60.

[2]   For a brief discussion on historical understandings and scientific disputes about this issue, see Merickle P. Perception without awareness. 1992 *American Psychologist*, volume 47, pages 792-795.

[3]   Funahashi S. Neuronal mechanisms of executive control by the prefrontal cortex. 2001 *Neuroscience Research*, volume 39(2); pages 147-165: page 147, who says that:

>   To perform these processes efficiently and successfully, we need to monitor the external world continuously, pay attention to necessary information, input wanted information, retrieve related information from long-term memory, manipulate and integrate information, and then output appropriate information to particular brain areas. We also need to suppress unnecessary output to inappropriate brain areas and inhibit inappropriate actions to perform temporally coordinated sequential actions. The functions produced by these processes have been called higher cognitive functions, or more specifically 'executive function'. Executive function is considered to be a product of the coordinated operation of various processes to accomplish a particular goal in a flexible manner. The mechanism or system responsible for the coordinated operation of various processes is called 'executive control'

cognition may be unconscious, through extremely rapid parallel processing of all perceptual input and that these limits are both necessary and desirable.[4]

How and what the brain brings to an individual's conscious awareness from the huge potential amount of sensory input every moment of the day is not yet completely understood, although a number of processes have been subject to considerable experimental work. Such pre-conscious selection functions are important for a doctor, particularly where there are overwhelmingly large amounts of stimuli in a busy and chaotic hospital environment. The exact biological mechanisms of selective attention[5] and of the various forms of error and self-deception that may occur[6] remain speculative, but they play an important role in attention and in the development and elaboration of mental schema, discussed below.

Attention is important because a lack of awareness of a problem will result in a failure to prevent harm occurring at the time. At a wider system level, problems not attended to cannot be reported – currently the healthcare system's trigger for quality improvement actions. Systems for reporting errors or preventable patient harm in hospitals are known to be greatly under-utilised[7]. Two relatively recent studies – one in the US[8] and one in Australia[9] – showed that only a small proportion of preventable patient harm is notified through regular, mandated reporting systems. In the US study of Medicare patients, 86% of adverse events were not reported, and of the most serious cases (resulting in permanent

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[4]   Personal correspondence of Donchin with Daniel Goleman, reproduced in Goleman D. *Vital Lies, simple truths – the psychology of self-deception* 1985 Touchstone Books, New York: page 73.

[5]   Kanwisher N. Neural events and perceptual awareness. 2001 *Cognition*, volume 79, pages 89-113.

[6]   Von Hippel W. Trivers R. The evolution and psychology of self-deception and commentaries on this paper. 2011 *Behavioral and Brain Sciences*, volume 34, pages 1-56.

[7]   See eg, Aspden P. Corrigan JM. Wolcott J. Erikson SM. (editors) *Patient Safety – achieving a new standard of care*. Committee on Data Standards for Patient Safety, Institute of Medicine Quality Chasm Series. 2004 National Academy Press, Washington DC.

[8]   Levinson DR. *Hospital incident reporting systems do not capture most patient harm*. Department of Health and Human Services Office of Inspector General, Report No. OEI-06-09-00091. January 2012. This report shows that 86% of patient harm suffered by Medicare patients in the US is not reported. The harm was assessed using a retrospective case note analysis methodology and this was matched with actual incident reporting system data.

[9]   Silas R. Tibballs J. Adverse events and comparison of systematic and voluntary reporting from a paediatric intensive care unit. 2010 *Quality and Safety in Healthcare*, volume 19(6), pages 568-571.

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disability or death) only 11% had been reported[10]. Under-reporting of preventable patient

harm has been a known issue for a long time.[11] The reasons for this have been recognised

as complex and multifactorial, including intrapersonal, interpersonal, institutional and

societal level barriers.[12] The group of barriers of most relevance here are the intrapersonal

factors. Doctors tend to adopt a "deny and defend" attitude if they are identified as having

caused harm to a patient[13]. Many of the barriers to reporting listed are based on fear,

anxiety, a sense of helplessness and shame. These negative emotions, in response to the

threat to identity, can prime the unconscious not to pay attention next time. While

deliberate failure to report has been given as a partial explanation for the under-reporting of

patient harm and error, the psychological threat response offers an alternative explanation

for a significant proportion of the under-reporting, with a proportion of this coming from

inattentional blindness. An example of this effect occurs where doctors appear to have no

recollection of an event, where a patient was harmed, or what occurred around that event.[14]

2. Inattentional blindness

a. *The role of working memory*

In neuroscience, inattentional blindness is linked to the limited brain processing capacity

associated with "working memory"[15]. Working memory is described as "a cognitive system

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[10]   Levinson 2012 – see note 8: page 12 and following.

[11]   Stanhope N. Crowley-Murphy M. Vincent C. O'Connor A. Taylor-Adams SE. An evaluation of
        adverse incident reporting. 1999 *Journal of Evaluation in Clinical Practice,* volume 5, pages 5-12.

[12]   See eg, Vincent C. Stanhope N. Crowley-Murphy M. Reasons for not reporting adverse incidents: an
        empirical study. 1999 *Journal of Evaluation in Clinical Practice*, volume 5(1), pages 13-21; Kaldjian
        LC. Jones EW. Rosenthal GE. Tripp-Reimer T. Hillis SL. An empirically derived taxonomy of factors
        affecting physicians' willingness to disclose medical errors. 2006 *Journal of General Internal
        Medicine,* volume 21, pages 942-948; Perez B. Knych SA. Weaver SJ. Liberman A. Abel EM, Oetjen
        D. Wan TTH. Understanding the barriers to physician error reporting and disclosure: A systemic
        approach to a systemic problem. 2014 *Journal of Patient Safety,* March, volume 10(1), pages 45-51.

[13]   Perez et al 2014 – see note 12; Rocke D. Lee WT. Medical errors: Teachable moments in doing the
        right thing. 2013 *Journal of Graduate Medical Education*, December, volume 5(4), pages 550-552.

[14]   The thesis author saw many examples of this both in her role as chair of the Professional Indemnity
        Review, when doctors were accused of negligence, and in her membership of various Quality
        Committees and Root Cause Analysis teams, where the doctors concerned were often apparently not
        aware of much of what had occurred.

[15]   The working memory model of Baddeley and Hitch, documented in 1974, superceded the previous
        short term memory model, though terms are still used in relation to attention. Baddeley AD. Hitch GJ.
        Working Memory. Chapter in Bower GA. (editor) *The Psychology of Learning and Motivation*.
        Volume 8. 1974 Academic Press, New York: pages 47-89: see especially pages 76-81.

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in which attention and memory interact to produce complex thought"[16]. While there are several theoretical models used to explain working memory[17], its role is quite different from what is commonly called "memory":

> Working memory is not for "memorizing" per se, but rather, it is in the service of complex cognitive activities, such as language processing, visuospatial thinking, reasoning and problem-solving and decision making[18]

Working memory is the process by which bodily sensations and perceptions are integrated into thoughts and actions. It is like a "transit hub'' where sensory input is linked to memories of previous experiences or knowledge, so that future and present actions can be determined from a broader footplate of information. All sensory information is sieved before coming to conscious attention, sometimes by the sub-conscious and sometimes in working memory, to determine what needs to be brought to conscious attention. When information is received by the senses, it does not automatically transfer to conscious attention. The sieving role is important because the senses are always bombarded by much more information than can ever be processed in the conscious mind[19].

Theories of "working memory" recognise that there are limits on the capacity of working memory, and that the brain's actions in relation to sense information and stored memory information triggered by the sensations, is complex.[20] More recent models of "working

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[16]   Shipstead Z, Redick T, Hicks K, Egle R. The scope and control of attention as separate aspects of working memory. 2012 *Memory*, volume 20(6), pages 608-628: at page 608.

[17]   For a detailed summary of the various models, see Miyake A. Shah P. Emerging consensus, unresolved issues, future directions. Chapter in Miyake A. Shah P. (editors) *Models of Working Memory – mechanisms of active maintenance and executive control.* 1999 Cambridge University Press, Cambridge: pages 442-481. This book also details the common threads among these theories: see Chapter 13, pages 442-481.

[18]   See Miyake et al 1999 at note 17: page 445.

[19]   Ratey J. *A user's guide to the brain – perception, attention and the four theaters of the Brain*. 2002 Vintage Books, New York: page 111.

[20]   As noted above, at note 15, in 1974, Baddeley and Hitch hypothesised a three-element model for working memory, which included the central executive mediated attentional control system, the visuo-spatial sketch pad for visual images and the phonological loop, for speech-based information. Baddeley A. Working Memory. 1992 *Science*, 31 January, volume 255, number 5044, pages 556-559: Abstract at page 556. Later studies have shown that there is a similar information "buffer system" for other senses, and that these specialised buffers work concurrently and independently of each other. LeDoux J. *The Emotional Brain – the mysterious underpinnings of emotional life*. 1996 Touchstone Books, New York: pages 270-271.

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memory" all share a number of common characteristics or understandings. These were summarised in 1999 by Miyake and Shah[21]:

- Working memory is not a structurally separate box or place in the mind or brain;
- Working memory's maintenance function is in the service of complex cognition;
- Executive control is integral to working memory function;
- Capacity limits reflect multiple factors and may even be an emergent property of the cognitive system;
- A completely unitary, domain-general view of working memory does not hold;
- Long term knowledge plays an integral role in working memory performance.

b.   *The limited capacity of working memory*

The capacity of human working memory has been the subject of research for a long time. Recognition of its limits[22] are important in relation to patient safety, because these limits also apply to what doctors, as human beings, can keep in their minds at any one time. It also explains why sometimes the unconscious may simply ignore information which may later prove to be important. The current scientific consensus is that working memory limits exist, and are affected by multiple factors, including:

- Information decay;
- Efficiency of controlled attention or executive mechanisms;
- Limits in the availability of 'activation';
- Limits in processing speed or efficiency;
- Lack of skill or knowledge for efficient encoding and retrieval;

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[21]   Miyake et al (editors) 1999 – see note 17.

[22]   The previous theory of short term memory saw it as a limited neural workspace, able to only hold about seven (±two) pieces of information at any moment. Miller G. The magical number 7, plus or minus 2. 1956 *The Psychological Review,* volume 63(2), pages 81-96. There were various ways this volume of information was able to be increased by "chunking" individual items in groups together for example - for discussion on "chunking' see pages 92-95. However, other researchers showed that the actual number of chunked items, which can be brought to and held in attention at any one time is probably only around four. Cowan N. The magical number 4 in short-term memory – a reconsideration of mental storage capacity. 2001 *Behavioral and Brain Sciences*, volume 24, pages 87-185: see especially Table 1, page 90. Further research has shown that sometimes different streams of information can be managed concurrently, using different parts of the cognitive network, but that as a situation becomes more complex, so it becomes more important to have regard to the limitations on working memory. Kieras D. Meyer D. Mueller S. Seymour T. Insights into Working Memory from the perspective of the EPIC architecture for modelling skilled perceptual-motor and cognitive human performance. Chapter 6 in Miyake et al 1999, at note 17, pages 183-223: page 184.

- Similarity-based interference;

- Lack of inhibitory control; and

- Limitations in communications and interactions among different subsystems or sub-components [23].

The operational capacity of an individual's working memory is also affected by individual differences in capacity to attend to what is received by someone from their senses – often called "bottom up processing". For example, a doctor expert in auscultation may be able to "hear" subtle auditory input and discriminate sounds, compared to another person without those skills. Operational capacity is also affected by differences in the ability to bring attention to goal-related information and to discard goal-irrelevant information – called "top down processing"[24]. For example, in a busy or chaotic hospital environment, an enhanced ability to identify and focus on relevant information and to exclude irrelevant information from attention will allow more relevant information to be included in medical decision-making.

The operational capacity of working memory can also be affected by fatigue, both physical fatigue[25] and executive function and self-regulation "use" fatigue[26]. Use fatigue commonly occurs when there is a need to make consecutive choices or decisions, or to exercise extended periods of self-control. Research indicates that self-regulation and executive functioning both require focussed or directed attention[27]. The ability to attend to something voluntarily (rather than being awash in a sea of unfiltered sensations and memories) is pivotal to pursuing a cognitive purpose and to carrying out appropriate and effective

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[23]   Miyake et al (editors) 1999: Table 12.1, page 421.

[24]   Shipstead Z. Redick T. Hicks K. Engle R. The scope and control of attention as separate aspects of working memory. 2012 *Memory*, volume 20(6), pages 608-628: at page 608.

[25]   Nilsson J. Söderström M. Karlsson A. Lekander M. Åkerstedt T. Lindroth N. Axelsson J. Less effective executive functioning after one night's sleep deprivation. 2005 *Journal of Sleep Research*, volume 14, pages 1-6.

[26]   Amir O. Tough choices: how making decisions tires your brain. 2008 *Scientific American: Mind Matters*. July 22 at https://www.scientificamerican.com/article/tough-choices-how-making/ . Accessed on 14 January 2013.

[27]   Kaplan S. Berman M. Directed Attention as a Common Resource for Executive Functioning and Self-Regulation. 2010 *Perspectives on Psychological Science*, volume 5(1), pages 43-57.

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action.[28]. Such attention requires neural effort and the more complicated and intrusive the environment, the greater the effort is required to focus attention.

Factors which can adversely affect a person's working memory capacity are important to understand the possible limitations on conscious awareness of preventable patient harm in healthcare. Whatever the extent of an individual doctor's working memory capacity may be, many of the environmental factors in the everyday operation of healthcare are likely to place further limits on that capacity. This, in turn, can limit the doctor's capacity for executive control functions such as the integration of multiple complex information with knowledge learned some time ago, especially when he or she has been on a long and arduous shift, or is otherwise suffering from fatigue or stress.

c.   Long term memory activation and schemas

Signals from the senses can also activate information held in long term memory, which is the brain's "system for permanently storing, managing, and retrieving information for later use"[29]. These signals trigger the retrieval of potentially related information from previous experience. This information then becomes part of the new "working memory" consideration. Memories from the past can thus colour the present and impact on what is seen and brought to attention in the present. For example, if the memory triggered is remembered as not unusual and low threat, then the sense signal may be ignored by the unconscious. Long term memory and its activation is also one of the mechanisms for learning[30]. Triggering allows what is now observed to "teach" or refine the stored memory from what is now being brought to attention.

Long term memory is often divided into two forms: explicit memories and implicit memories. Explicit memories are essentially conscious memories, such as facts and

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[28]   Voluntary, deliberate attention differs from involuntary attention, which occurs automatically when new, exciting or interesting information is present and appears to operate in a different neural circuit. The human brain is wired to attend to novelty. Seeley W. Dissociable Intrinsic Connectivity Networks for Salience Processing and Executive Control. 2007 *Journal of Neuroscience*, volume 27(9), pages 2349-2356.

[29]   Definition from http://www.medterms.com/script/main/art.asp?articlekey=15299 , accessed 24 December 2012.

[30]   Ratey 2002 – see note 19: pages 190-191.

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information, including what happened, when and where. They are often called "verbal"
memories as they can be communicated at will in words.[31] They include knowledge about
things (declarative memory), including one's own life-story (episodic or narrative
memory).

Implicit memory, in contrast, "is responsible for the laying down of skills and habits that,
once learned, do not have to be consciously thought about, such as eating, talking, riding a
bike, and the way to go about making friends. They are inflexible, slow but extremely
reliable"[32]. Such memories are unconscious and include procedural memory about how to
exercise skills or do tasks, which have become automatic, so past experiences do not need
to be consciously recalled each time (that is, when one has become "unconsciously
skilled"). Implicit memories also include automatic and conditioned emotional responses
such as how to respond to fear or joy, or what to do when a threat appears. Implicit
emotional memories can include unconscious responses to situations, people or individual
sensations like a smell or a sight, where an emotional response was produced when last
encountered. These reactions can be very rapid and can occur without conscious
awareness[33]. For example, fear responses can be "primed" by context, which is "a
collection of many stimuli and is dependent on accurate memory of situations"[34] where the
threat has occurred before.

In the case of threats, speed of response is an important evolutionary advantage, because
the responses (often in the flight, fight, freeze continuum) are triggered quickly, allowing
rapid action against a threat.[35] Emotional memories are essentially either appetitive
(gaining pleasure) or defensive (avoiding pain)[36]. While the complete physiology of

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[31]   Verbal memories can be drawn upon as needed, and are mediated through the temporal lobe memory
       system, including the hippocampus. LeDoux 1996 – see note 20: page 321, note 3.

[32]   These forms of implicit memories involve the basal ganglia and cerebellum. Ratey 2002 – see note 19:
       page 200.

[33]   Damasio A. *Descartes' Error – emotion, reason and the human brain*. 1996 Papermac, London: pages
       131-134.

[34]   Ratey 2002 – see note 19: pages 234-235.

[35]   LeDoux 1996 – see note 20: page 266.

[36]   Lang P. Bradley M, Cuthbert B. Emotion, motivation, and anxiety: brain mechanisms and
       psychophysiology. 1998 *Biological Psychiatry*, volume 44, pages 1248-1263.

implicit memories and their storage is not clear, the amygdala (a structure in the mid-brain) is implicated in both positive and negative emotions[37].   Whether emotional arousal comes from a potentially life-threatening stimulus (like an explosive noise or an animal attack) or from a learned fear, the response generated involves the amygdala[38]. The proximity and close connections of the amygdala to the brain stem allow sense inputs to "short-cut" directly to actions to tackle the threat before the thinking brain has had time to react.[39]

To convert a sensation or an event to an explicit memory, the information must firstly come to awareness and then be encoded, through a process called "long term potentiation"[40]. The hippocampus creates links between the separate pieces associated with the sensation or event[41] and this becomes what is seen as the memory of that event – the blend of sensations and emotions associated with it. However, each time it is recalled, it is altered by the circumstances in which it is remembered, with new information being added and possibly forgotten.

The formation of an emotional memory involves several different processes as well. An emotional stimulus goes from the brain's sensory thalamus through two different pathways – a "high road" which involved the sensory cortex and the "low road" involving the amygdala. This dual process allows rapid action on the simplified image in the amygdala, and slower, more detailed consideration in the cortex.[42] Emotional experience can be

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[37]   Lanteaume L. Khalfa S. Regis J. Marquis P. Chauvel P. Bartolomei F. Emotion induction after direct intracerebral stimulation of human amygdala. 2007 *Cerebral Cortex*, June, volume 17(6), pages 1307-13.

[38]   LeDoux 1996 – see note 20: pages 244-246

[39]   The role of the amygdala is important in relation to fear and threat:

> The amygdala is the area of the brain most involved in fear. Stimuli have a direct pathway through the sensory filter of the thalamus to the amygdala, which can then mobilize the body through its brainstem connections. If you see a snake, or anything that looks like a snake, in the corner of a shadowy garage, the amygdala is immediately triggered and you react before cognizing the image. The image triggers the optic nerve to send a signal to the brain. On its way to the cortex, the signal takes a short route to the amygdala, which shouts "Emergency!" to the rest of your body, triggering a cascade of reactions: your heart rate soars, your blood pressure increases and your senses become heightened as your body prepares to take action.

Ratey 2002 – see note 19: page 233.

[40]   Ratey 2002 – see note 19: page 191.

[41]   Ratey 2002 – see note 19: pages 190-193.

[42]   The following example shows the complementary and comparative nature of these processes:

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stored in explicit memory as the fact of feeling an emotion and in implicit memory as the emotion itself. Implicit memory formation is not part of the conscious memory formation system[43] – implicit emotional memories appear to be directly mediated through the amygdala with no hippocampal involvement[44]. In addition, when fear is overwhelming, the hippocampus is not physiologically able to process the memories of those events as explicit memories, so they may remain only as implicit memories[45]. While implicit memories are unconscious, they can be extremely powerful because they "become unconscious sources of intense anxiety that potentially exert their opaque and perverse influences throughout life"[46]. Unconscious fear memories that are "established through the amygdala appear to be indelibly burned into the brain … [and] are probably with us for life", though it is possible to exercise control over them. However, before control can be exercised, for example, by the executive control part of the brain, it is necessary to be consciously aware of the fear responses and their potential areas of influence.[47]

Imagine walking in the woods. A crackling sound occurs. It goes straight to the amygdala through the thalamic pathway. The sound also goes from the thalamus to the cortex, which recognizes the sound to be a dry twig that snapped under the weight of your boot, or that of a rattlesnake shaking its tail. But by the time the cortex has figured this out, the amygdala is already starting to defend against the snake. The information received from the thalamus is unfiltered and biased towards evoking responses. The cortex's job is to prevent the inappropriate response rather than to produce the appropriate one…. From the point of view of survival, it is better to respond to potentially dangerous events as if they were in fact the real thing than to fail to respond. The cost of treating a stick as a snake is less in the long run, than the cost of treating a snake as a stick.

LeDoux 1996 – see note 20: pages 163-165.

[43] LeDoux J. Emotional memory systems in the brain. 1993 *Behavioural Brain Research*, volume 5, pages 69-79: at page 70.

[44] Izquierdo I. Medina J. Bianchin M. Walz R. Zanatta M. Da Silva R. Silva M. Ruschel A. Paczko N. Memory processing by the limbic system: role of specific neurotransmitter systems. 1993 *Behavioural Brain Research,* volume 58, pages 91-98; LeDoux 1993 – see note 43: pages 69-79; McGaugh J. Intoini-Collison I. Cahill L. Castellano C. Dalmaz C. Parent M. Williams C. Neuromodulatory systems and memory storage: role of the amygdala. 1993 *Behavioural Brain Research*, volume 58, pages 81-90.

[45] Van der Kolk BA. The Body Keeps the Score: Memory and the Evolving Psychobiology of Posttraumatic Stress. 1994 *Harvard Review of Psychiatry*, January/February, volume 1(5), pages 253-265.

[46] LeDoux 1996 – see note 20: page 245.

[47] Hariri A. Mattay V. Tessitore A. Fera F. Weinberger D. Neocortical modulation of the amygdala response to fearful stimuli. 2003 *Biological Psychiatry*, volume 53, pages 494-50.

Long term explicit memory stores facts about prior observations and experiences, including emotions, associated with these observations in systematic groupings of information, often called "schemas"[48]. Schemas alter over time, as experiences influence what is perceived.

> Perception is interactive, constructed. It is not enough for information to flow through the senses; to make sense of the senses requires a context that organizes the information they convey, that lends it the proper meaning. The packets that organize information and make sense of experience are "schemas", the building blocks of cognition. Schemas embody the rules and categories that order raw experience into coherent meaning. All knowledge and experience is packaged in schemas. Schemas are the ghost in the machine, the intelligences that guides information as it flows through the mind.[49]

As the organising mechanisms for knowledge in the brain, schema allow the recognition of both known and new experiences and their classification. Schemas facilitate making decisions and acting with incomplete information, as doctors are obliged to do all the time. The mind does most of this at a level below consciousness – selecting appropriate schemas outside of awareness. Schemas can also hold memories of emotions related to these observations from earlier experiences. Emotions can act as a powerful memory enhancer, by reinforcing knowledge with feelings. However, emotional arousal can also narrow the focus of awareness, so it can also impair memories of associated details that are considered peripheral to the stimulus that is the focus of the emotional arousal. In cases of significant trauma or overwhelming fear, the emotions triggered may be all that is recorded in the brain, and the experience will be recorded in a non-narrative form. For example, the emotions may be associated with a sound or a smell that was laid down at the same time, but which does not form part of an explicit memory story.

Past experiences and information stored in particular schema can shape what is brought to attention from the senses through a process called "priming". Priming occurs when an ambiguous observation of the senses activates a schema. Schema activation allows a very rapid sieving of the material received by the senses. For example, if there are implicit memories associated with schema, the priming can result in emotional priming without an

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[48]   The concept of schemas (or schemata) was first introduced in Piaget's work on child development: see Paiget J. *Biology and Knowledge – An essay on the relations between organic regulations and cognitive processes*. (Translated into English by Beatrix Walsh from 1967 Gallimard edition) 1971 University of Edinburgh Press, Edinburgh.

[49]   Goleman 1985 - see note 4: page 75.

explicit memory to provide context, such as a high level of anxiety not clearly associated with the events now happening. Equally, a schema may result in something being ignored, because its conscious recognition, rather than its occurrence, may give rise to another overwhelming threat. An example of this kind of schema is a doctor's experience of making an error in training when a senior doctor shames them or where they witness a doctor being humiliated in a Mortality and Morbidity committee[50]. Because of the implicit nature of some emotional memories, much of the psychological turmoil when a doctor suffers a threat to identity may work at an unconscious level and is hidden from attention. Evidence for this comes from the effect on doctors whose errors becomes public and who then experience normal, healthcare environments with a sensitising hyper-vigilance[51], akin to that which occurs in Post-Traumatic Stress Disorder[52]. Research has demonstrated that what is detected by the senses can have a significant psychological impact, even though there is no conscious awareness of having seen or heard the event[53].

d.   Sensations and memories – putting it all together

The psychology of inattentional blindness is complicated. Evolutionarily, it was important to notice something new or novel, because it may have been a threat to survival. If a human failed to act when a threat presented, he or she may not live to pass on their genes. Equally, if the working memory was subject to too many stimuli, the brain might become overwhelmed and choose attention poorly. This leads to habituation, where after a period many things fall into the background.[54] Where errors or practices which potentially create

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[50]   The harrowing stories of young doctors are reflected in the research on understanding why doctors don't report when an error or patient harm occurs. For example, an intern reported: "Mortality and morbidity conferences were just brutal. We wouldn't go, we wanted nothing to do with them. The students would actually sometimes go to see the residents they didn't like just get roasted". Kaldjian LC et al. 2006 – see note 12, at page 946.

[51]   See eg, Christensen JF. Levinson W. Dunn PM. Heart of Darkness – the impact of perceived mistakes on physicians. 1992 *Journal of General Internal Medicine*, July/August, volume 7, pages 424-431.

[52]   Trauma can arise from many sources. The main characteristic of a traumatic event or environment is that it creates a sense of being overwhelmed and powerless, so that normal coping mechanisms are overwhelmed. For example, it can include dignity violations (where people are shamed and humiliated), and participatory trauma (where people cause trauma to others or feel powerless to stop someone being traumatised). It can include working or living under abusive or threat-filled circumstances over a long period. There are many responses to trauma, including Post Traumatic Stress Disorder. See Yoder C. *The Little Book of Trauma Healing – when violence strikes and community security is threatened*. 2005 Good Books, Intercourse (Pennsylvania USA)

[53]   Mack A. Rock I. *Inattentional Blindness* 2000 MIT Press, Cambridge (Massachusetts): see especially Chapter 8 – Inattentional blindness and implicit perception and Chapter 11 – Some conclusions.

[54]   Van Hecke ML. *Blind Spots*. 2007 Prometheus Books, Amherst (USA): page 74.

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harm are habituated, they may well not be noticed. In relation to identity threat, not noticing something which only becomes a threat if brought to attention (like a mistake) can create a different form of habituation. Where implicit memories of shame or humiliation from paying attention or noticing an error or harm are triggered, the brain's response may simply be to exclude the information from conscious awareness.

What makes it onto the working memory platform, in the end, is determined by the executive control function in the brain. In 2000 Baddeley added another element to the working memory model – the episodic buffer. This draws information from the various specialised sense buffers or slave systems and the activated long term memory and holds information from all these sources in an integrated form. It is from here that the executive function of the working memory can draw some or all of that information into conscious awareness.[55] The information received by the senses and drawn from memory does not come to conscious awareness until it is moved onto the working memory platform – sometimes known as the global workspace[56].

3.   Inattentional blindness, preventable patient harm and Self-Identity

Inattentional blindness may result directly in preventable patient harm, when information that is important fails to come to attention. For example, the more input the brain is receiving (such as in a busy or chaotic environment) or the more conscious material is already there (such as when a situation is new or novel), the more likely the brain is to suffer from inattentional blindness to other information. An example of this is the higher risk of error recognised in busy emergency departments and with inexperienced doctors[57].

Inattentional blindness also accompanies the actions of someone who is an expert. When a set of actions or conditions becomes habituated, such as when someone becomes expert at something, these actions move from conscious awareness to unconscious action in the basal

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[55]   Baddeley A. The episodic buffer: a new component of working memory? 2000 *Trends in Cognitive Science*, volume 4(11), pages 417-423.

[56]   Baars B. *A Cognitive Theory of Consciousness*. 1988 Cambridge University Press, Cambridge.

[57]   Bleetman A. Sanusi S. Dale T. Brace S. Human factors and error prevention in emergency medicine. 2012 *Emergency Medicine Journal*, volume 29(5), pages 389-393.

ganglia. The advantage of the basal ganglia is that actions carried out from such habits use fewer neural resources and less energy. As an energy-efficient way for the brain to work, it frees more of the limited resources available in the working memory to look at novel information. However, it also means less conscious attention is allocated by the brain to those habitual actions or conditions. This, in turn, means that crucial details may be missed. A medical example of the negative patient safety consequences of the blindness which accompanies expert habituation may be where a doctor is doing a form of surgery that he or she has done successfully many times and does not notice that he or she has damaged a blood vessel. In addition, where someone is an expert, inattentional blindness can be driven by the brain's expectations. The more expert one is at a task, the more frequently the visual impact of the action has been recorded in the brain. This in turn results in an expectation that things will be as they always were before.[58]

Working memory may also mistakenly link information in a sensation to long term memory, through the process of activation. For example, when a doctor is informed of a provisional diagnosis by a colleague in a busy emergency room, the doctor's memories of previous patients, knowledge he or she has been taught, experiences of diagnosing this condition and similar conditions, will all be brought into working memory and this may wrongly direct the doctor's thinking about the current patient.

The biological limits on working memory and the brain's unconscious sieving functions, that are necessary to avoid cognitive overwhelm, add to the potential for error. The greatest perception someone can have of what is happening at any one time is, at best, a partial awareness, and therefore a partial picture of "reality". Only what comes into conscious awareness can be consciously "known". All people present at an incident then have a partial perception of all the things that could be known or observed at any point and most will be different one from the other. The ability to have several people looking at the one situation can increase the chances of being able to see more of reality, but it will nonetheless be a partial picture, and the sharing of the pictures can introduce other errors. A partial picture is the best that any human being can do.

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[58]   Summerfield C. Egner T. Expectation (and Attention) in visual cognition. 2009 *Trends in Cognitive Science*, September, volume 13(9), pages 403-409: at page 403.

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Individual schemas also affect what is brought to attention. The selection and operation of schemas is particularly affected by past and present emotions.

> Schemas are intelligence in action: they guide the analysis of sensory input in the sensory store, simplifying it and organizing it, weeding out what is not salient. They scan information that passes out of the sensory store, and filter it through the priorities and relevancies they embody. Schemas determine which focus attention seeks, and hence what will enter awareness. When driven by emotions like *anxiety*, schemas impose themselves with special force. Another implication of this model is ... [that] schemas are the lions at the gate of awareness: they determine not only what enters but what does not.[59]

The anxiety referred to here is the stress reaction caused by either physical or psychological threat. A threat to a primary schema, like an identity schema, will generally create high levels of stress. Anxiety can be generated by both conscious and unconscious memories associated with particular stresses in a number of ways. Stress has a differential impact on memory, depending upon the nature of the stress. Stresses which are short-term and traumatic can lead to enhanced memories of the event through the facilitatory impact of adrenaline on memory[60]. A so-called "flashbulb memory" is "made especially crisp and clear because of its emotional implications."[61] For example, a trainee doctor may miss a diagnosis leading to immediate harm to a patient and so she or he will always remember the missed symptoms or processes and be especially alert to these[62]. This can be of benefit in the future to prevent repeat events. However, it may also shape the approach a doctor takes to all future patients or a class of patients. Such shaping – particularly where it is not consciously recognised - can skew a doctor's diagnostic cognitive processes so that the doctor is more likely to "jump to a wrong conclusion" in a future case.

The fear of litigation, public complaint or peer criticism can be especially strong, where the Doctor Identity schema includes a perfect performance sub-schema. The fear can be compounded by anticipated shame or humiliation, if an error could impact on that person's pubic or professional reputation. There are also the ever-present confounders of

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[59]   Goleman 1985 - see note 4: pages 82-83.

[60]   LeDoux 1996 – see note 20: chapter 7 and page 243.

[61]   LeDoux 1996 – see note 20: page 206-208.

[62]   Groopman J. *How doctors think*. 2007 Scribe, Melbourne.

uncertainty and fear of vulnerability. In the words of one doctor: "legal anxieties may serve as a conscious or – more probably – an unconscious pretext to avoid directly confronting other, more difficult issues". [63] The fear underlying these thoughts can also operate "out of awareness" as an initial sieve to perception.

If stresses suffered by doctors are longer term, the physiology of stress results in a negative effect on the laying down of longer term memory, principally through long term stress hormone inhibition of the operation of the hippocampus. These situations can occur, for example, when a doctor is working long hours in a chaotic environment, which requires high level cognitive functioning such as decision-making and analysis. Persistent long term stress gives rise to long term anxiety, and can "impair explicit memory functions in humans"[64]

At a third level, stress impacts on implicit memory. Golman notes that there are physiological responses which dull physical pain and stress to enable humans to function in a high threat situation, when objectively they should be experiencing severe disabling pain. While this is a very useful survival mechanism when one is facing life-threatening physical danger, he goes on to say that "the brain's tactic for handling physical pain through muting awareness offers itself as a template for dealing with psychological and social hurts as well".[65]

Inattention can be aggravated by distractions and "multi-tasking", which is now recognised as generally diminishing the performance of each task. Multi-tasking may arise from a misguided self-belief that someone can do multiple things equally well at once[66] or may be imposed by work place demands that are unreasonable. These environmental effects will also actively divert attention, particularly if the inattention is based on an implicit defence against an identity threat if it came to conscious awareness.

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[63]   Kapp MB. Legal anxieties and medical mistakes – barriers and pretexts. 1997 *Journal of General Internal Medicine*, December, volume 12, pages 787-788.

[64]   LeDoux 1996 – see note 20: page 242.

[65]   Goleman 1985 - see note 4: page 39

[66]   Hallinan JT. *Why we make mistakes.* 2009 Broadway Books, New York: see especially Chapter 5, pages 76-90.

Schemas shape and are shaped by the individual's concept of self. In fact, self-perception is defined through a set of schemas – some of which are core to the person's identity (for example, 'I am a good doctor') and others which may be considered lower order schemas (for example, 'I am a good gardener' or 'I am not good at sport'.). Where presented with information that challenges lower order schema, these generally do not threaten the sense of identity. However, where a higher order schema is challenged, information that does not fit with these important schemas, will be ignored or selectively edited to protect the high-level schema. Whether the identity trait is negative or positive,[67] self-confirmatory information is sought out and contradictory information is resisted, with people actively reinterpreting experiences to fit their self-schemas.

> When a threat to the self-concept looms, anxiety can be warded off by a healthy self-schema through an artful manoeuvre or two. Events can be selectively remembered, reinterpreted, slanted. When the objective facts don't support the self-system, a more subjective recounting can. … [T]he wherewithal to do this is entirely outside awareness. The self-system can sanitize its portrayal of an event through the filtering that goes on prior to awareness. I need confront only a finished, polished view of myself: the dirty work goes on behind the scenes. … Such self-serving reinterpretations of reality go on for most of us some of the time, but we are rarely found out. After all, the dissembling goes on discreetly, behind the screen of the unconscious: we are only its recipients, innocent self-deceivers.[68]

The purpose of such self-deceptions is to avoid anxiety – one of the organising motivations of the psychological Self-system. This deep desire to avoid anxiety in the Self results in the unconscious acting as a vigilant early warning guard in what it brings to awareness and what is not noticed. Psychologists refer to this as a diversionary schema. Goleman referred to them as "black holes of the mind, diverting attention from select bits of subjective reality – specifically, certain anxiety-evoking information"[69]. This can happen even more quickly, again without conscious awareness, if the schema has been awoken or "primed" by some previous trigger. Priming will impact on what comes to conscious awareness and on actions taken, without any awareness that the schema has been triggered.[70]

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[67]   Swann Jr WB. The trouble with change – self-verification and allegiance to the Self. 1997 *Psychological Science*, May, volume 8(3): pages 177-180.

[68]   Goleman 1985 - see note 4: pages 100-101

[69]   Goleman 1985 - see note 4: page 107.

[70]   Fine C. *A mind of its own – how your brain distorts and deceives.* 2006 Allen and Unwin Pty Ltd, Sydney: see especially The Secretive Brain – Exposing the guile of the mental butler at pages 111-137.

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The fundamental organising processes of thinking, memory and sensory input all work towards a partial awareness of reality:

> A schema implicitly selects what will be noted and what will not. By directing attention to one pattern of meaning, it ignores others. In this sense, even the most innocuous schema filters experience on the basis of relevancy. This filter of perception becomes a censor when it suppresses available information on the ground that it is not just irrelevant, but forbidden.[71]

The application of this to doctors' collective and individual awareness of preventable patient harm provides a potential explanation for some of the more puzzling aspects of clinician behaviour. The deeply embedded "perfect performance" schema of the Doctor Identity is faced frequently with conflicting and fear-generating messages about error and patient harm. The intellectual knowledge that existence of error and patient harm is very common sits uncomfortably next to the belief that these are not appropriate in a "good" doctor, and the often personal or vicarious experience of the humiliation and shame of having an error exposed in training, in the workplace or, worst of all, in public.

These are exactly the kinds of threat, which might lead to the development of diversionary schemas in the unconscious and support inattentional blindness. This would protect the doctor's primary identity schema, from the traumatic awareness of error and patient harm in his or her practice. It is not, then, a question of denial or lying at this level, but rather of a Self-protective gap in perception, a psychological blind spot which occurs at a pre-conscious level. If the error or preventable patient harm makes it through to a doctor's conscious awareness, then the human mind provides other defences to these potential assaults on the Doctor Identity discussed in later parts of this chapter.

C. Decision-making, vulnerabilities and identity defences

Decision-making is a core activity for doctors – diagnosis, prognosis and treatment choices all involve decisions, which could potentially harm a patient. The ability to make right decisions is a core skill in the "good doctor" schema. Unfortunately, decision-making,

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[71] Goleman 1985 - see note 4: page 106.

particularly in circumstances of uncertainty, is an error-ridden activity for all human beings. For doctors, part of this comes from the uncertainty and "unknowns" that exist when a doctor examines a patient and makes a decision, and part comes from the complexities associated with working in a strained and dysfunctional health system.

As can be seen in Chapter 5, the education and training of doctors highly values the knowledge learned and the ability to "know" things is a core part of being a good doctor. With the huge scope of knowledge that now is encompassed by medicine and the large variations in patients and diseases, it is highly unlikely that any single doctor could possibly "know" everything, so a recognition of ordinary human limits to the acquisition and retention of knowledge is important for a doctor to practice safely. In addition, "knowing" is itself an activity in which errors are regularly made, because of how our brains process information.

In this section, the thesis looks at how normal characteristics of medical decision-making can facilitate doctors' denial of responsibility for preventable patient harm arising from error or lack of knowledge. This is principally due to the innate and sometimes exaggerated claim of "uncertainty" in medicine. It also looks at the nature of various thought processes, such as blind spots, biases and heuristics. Many of these are associated with the valued decision-making skills of doctors, such as pattern recognition and diagnosis, rapid processing of information in an emergency and remaining focussed in an often chaotic, stressful and distracting environment. Doctor awareness of the risks in their own thought processes and of strategies that can be used to detect and prevent common thought errors is a powerful tool for prevention of harm. Recognition of the probability of errors in human thought is the first step towards prevention. An attitude witnessed in 30% of intensive care staff in the research of Sexton, Thomas and Helmreich[72], which says "I know about errors, but I haven't ever made one" is a false belief, which produces (and reproduces) unsafe healthcare.

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[72]   Sexton JB. Thomas EJ. Helmreich RL. Error, stress and teamwork in medicine and aviation: cross-sectional surveys. 2000 *British Medical Journal*. 18 March, volume 320, pages 745-749: at page 747.

Chapter 3 –Identity under threat

1.   The utility and risks around uncertainty

Uncertainty characterises parts of decision-making in medicine, which doctors describe as an art rather than strictly a science. Sir Donald Irvine pondered on its impact:

> [D]octors often have to make decisions – even if it is a decision to do nothing – on clinical data that are normally incomplete. Like most doctors, I have worried whether the child who has a headache is in fact suffering from the onset of a minor infection or meningitis. Is the vague pain in that man's chest a symptom of heart disease or indigestion? This kind of problem solving involves considerable judgement and pragmatism as the process of unravelling the problem follows its course often over some time. It is therefore prone to error.[73]

Historically, medicine relied on creating principles from observations and hypotheses, often in an environment where the underlying understanding of human physiology, the cause of disease and the impact of treatment was itself either partial or limited. This often led to false certainty, because of the limited nature of an individual doctor's experience.

> … "clinical experience" is frequently personal mythology based on one or two incidents, or on stories by colleagues. … Each man (*sic)* builds up his own world of clinical experience and assumes personal … responsibility for the way he manages cases in that world. The nature of that world is prone to be self-validating and self-confirming. [74]

This description of the "method" of medicine was written just before the 1972 publication of Archie Cochrane's landmark work *Effectiveness and efficiency: random reflections on health services*[75],*which promoted the importance of randomised controlled trials and what became known as "evidence-based medicine". Within 20 years, the Cochrane Collaboration was established[76], to expand the evidence base of clinical effectiveness for doctors and patients. "Evidence-based medicine" has also been encouraged through government bodies like the National Institute for Clinical Studies in Australia, the UK

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[73]   Sir Donald Irvine is a past President of the British General Medical Council. Irvine D. *The Doctors' Tale – Professionalism and Public Trust*. 2003 Radcliffe Medical Press, Abingdon (UK): page 23.

[74]   Freidson E. *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. 1970 (2nd edition -1988 Impress) University of Chicago Press, Chicago: page 172.

[75]   Cochrane AL. *Effectiveness and efficiency –random reflections on health services.* 1972 The Nuffield Provincial Hospitals Trust, Nuffield (England). Available at: http://www.nuffieldtrust.org.uk/sites/files/nuffield/publication/Effectiveness_and_Efficiency.pdf

[76]   For brief history of the Cochrane Collaboration see: http://www.cochrane.org/about-us/history : the first Cochrane Centre was funded by the British National Health Service in 1992, after two decades of working on the development of a better evidence base for perinatal medicine, funded by the World Health Organisation, the US Public Health Service and the UK Department of Health.

National Institute for Health and Clinical Excellence, and the US Agency for Healthcare Policy and Research[77].

However, an improved evidence base for medical decision-making has not removed uncertainty from medicine[78]. The expansion of medical knowledge has added complexity and uncertainty. There is also the intrinsic uncertainty which comes from the varying circumstances of patients and doctors[79]. Where patients enrolled in a clinical trial are different from another patient group, in relation to characteristics such as disease severity, age or sex, or where other therapies are being used, the evidence available may be unhelpful or misleading[80]. Other patient factors which can affect the relevance of evidence include the existence of known and unknown co-morbidities or other physical, mental, socio-economic or other characteristics of an individual patient. Any or all of these may impact on a patient's response to treatment, their recovery and their degree of continuing disability. There remains considerable inherent uncertainty in medicine.

In her classic 1957 sociological article, Renee Fox describes three elements to this uncertainty – the impossibility of complete mastery of the body of known medical knowledge, the limits of medical knowledge itself, and the difficulty of distinguishing between personal ignorance and the current limits of medical knowledge.[81] Mizrahi's 1984 research[82] examined how medical interns learn to deal with mistakes and preventable patient harm. The defences observed in this three-year study were denial, discounting and distancing. Uncertainty was seen as an exculpatory factor in denial, where "the concept of

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[77]   Now called the Agency for Healthcare Research and Quality.

[78]   See eg, Rosenfeld RM. Uncertainty-based medicine. 2003 *Otolaryngology – Head and Neck Surgery*, volume 128, pages 5-7.

[79]   Plsek PE. Greenhalgh T. The challenge of complexity in healthcare.2001 *British Medical Journal,* 15 September, volume 323, pages 625-8.

[80]   See eg, the varying evidence for angioplasty vs thrombolysis across different age groups and patient cohorts: McNeil BJ. Shattuck Lecture: Hidden barriers to improvement in the quality of care. 2001 *New England Journal of Medicine*, 29 November, volume 345(22), pages 1612-1620

[81]   Fox RC. Training for Uncertainty. Chapter 2 in Merton RK. Reader G. Kendall PL. (editors) *The Student-Physician: Introductory Studies in the Sociology of Medical Education*. 1957 Harvard University Press, Cambridge (Massachusetts): pages 207–241.

[82]   Mizrahi T. Managing medical mistakes: ideology, insularity and accountability among internists-in-training. 1984 *Social Science and Medicine*, volume 19(2), pages 135-146.

error [was negated] by identifying the practice of medicine as a 'gray area'." Mizrahi noted that this tool was often only successful with "relatively minor types of occurrences". Discounting was used when the error or harm caused was too large or consequential to be managed by denial and involved externalising blame into "the bureaucratic system outside of medicine; superiors, subordinates or colleagues with medicine; and the patient".[83]

In medical practice, "diagnostic uncertainty is common … and diagnostic agreement between clinicians is surprisingly poor, even over "hard" observable criteria"[84]. For example, agreements rates between diagnosing doctors that are in the poor-to-moderate range occur in a wide range of areas, including interpretation of X-rays[85], and diagnosis of complex pain syndromes[86], cervical abnormalities[87] and psychiatric conditions[88]. However, where best practice is now known, clinical variation is increasingly being seen as potential evidence of poor practice, and patient safety bodies, health funders and medical bodies[89] examine such clinical variation critically[90]. The "uncertainty" claimed by some doctors to justify these variations is being increasingly seen as a result of poor practice, which creates risks for patients.[91]

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[83]   Mizrah 1984 – see note 82: at pages 137-138.

[84]   Wilson T. Holt T. Complexity and clinical care. 2001 *British Medical Journal*, 15 September, volume 323, pages 685-688: see especially page 687.

[85]   Musch DC. Landis R. Higgins ITT. Gilson JC. Jones RN. An application of kappa-type analyses to interobserver variation in classifying chest radiographs for pneumoconiosis. 1984 *Statistics in medicine*, volume 3, pages 73-83. See also: Groopman 2007 – see note 62: chapter 8 – the eye of the beholder, pages 177202.

[86]   Van de Vusse AC. Stomp-van den Berg SGM. De Vet HCW. Weber WEJ. Interobserver reliability of diagnosis in patients with complex regional pain syndrome. 2003 *European Journal of Pain*, volume 7, pages 259-265.

[87]   Stoler MH. Schiffman M. Interobserver reproducibility of cervical cytologic and histologic interpretations. 2001 *Journal of the American Medical Association*, volume 285(11), pages 1500-1505.

[88]   Pies R. How "objective" are psychiatric diagnoses? 2007 *Psychiatry (Edgmont)*, October, pages 18-22.

[89]   See eg, Royal Australasian College of Physicians. EVOLVE program – sighted on 12 March 2016 at https://members.racp.edu.au/index.cfm?objectid=3B8173E6-F3B9-C2FD-24B7E7353586BDEA

[90]   See eg, Australian Commission on Safety and Quality in Health Care (ACSQHC). *Medical Practice Variation – Background paper*. 2013 ACSQHC, Sydney. ACSQHC and the National Health Performance Authority. *Australian Atlas of Healthcare Variation*. 2015 ACSQHC, Sydney

[91]   ACSQHC 2013 – see note 90, page 4. The Atlas (ACSQHC 2015 – see note 90) is even stronger on this point and notes that "more healthcare is not necessarily better healthcare": page 10.

Where speed of decision-making in the face of incomplete knowledge can be important, doctors often use heuristic principles to come to a possible solution. Heuristics are forms of mental shortcuts, which often involve their own cognitive errors and risks. For example, "a person is said to employ the availability heuristic whenever he estimates frequency or probability by the ease with which instances or associations could be brought to mind".[92] Other judgmental heuristics used in decision making with uncertainty include representativeness (how closely the data fits a stereotype that comes readily to mind), anchoring and adjustment (whatever the first information is sets the path and movement goes from there), and familiarity (what normally happens is assumed to be what will happen). The risk for heuristic solutions is that they may also produce wrong results due to the inherent biases within them[93]. Heuristics are often used in clinical practice, but can increase the risk of error, unless their limitations are understood and accounted for.

Uncertainty serves a useful, sometimes unconscious psychological purpose for doctors, where error and harm threaten identity. A doctor can excuse a negative outcome in a particular case, because there were many acceptable treatment options, and those chosen were within the range. An apparent failure is just a normal variation because of uncertainty. This protects the Doctor Identity from any implied or actual criticism. The Litigation threat sub-study discussed in Chapter 4 provides a vivid illustration of the power of uncertainty as a relief valve for acknowledgement of responsibility and avoidance of personal anguish. Intrinsic and exaggerated ideas of uncertainty provide an alternative explanation to knowledge or skilled based errors that threaten the Doctor Identity, whether consciously or unconsciously.[94]

The need to "seem" certain can also cause risks of harm, if it prevents clinical reflection on other possibilities:

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[92] Tversky A. Kahneman D. Availability: A heuristic for judging frequency and probability. 1973 *Cognitive Psychology*, volume 5, pages 207-232: at 208.

[93] Kahneman won the 2002 Nobel Memorial Prize in Economic Sciences for his and Tversky's work on judgement and decision-making –Tversky died 6 years before. See also: Tversky A. Kahneman D. Judgement under uncertainty; heuristics and biases. 1974 *Science*. 27 September, volume 185 (issue 4157), pages 1124-1131.

[94] See eg, a discussion about the exaggerated threat perceived by doctors in relation to litigation and medical errors and the defence it provides to deeper questions: Kapp MB. Legal anxieties and medical mistakes. 1997. Journal of General Internal Medicine. December, volume 12, pages 787-788.

> Physicians like everyone else, display certain psychological characteristics when they are in the face of uncertainty. There is the overconfident mind-set: people convince themselves they are right because they usually are. Also, they tend to focus on positive data rather than negative data. Positive data are emotionally more appealing, because they suggest a successful outcome. … Such data have a powerful effect on our psyche, particularly in settings of uncertainty.[95]

Uncertainty in medicine makes it difficult to determine whether patient harm results from "right" or a "wrong" action. In Marianne Paget's important 1988 book on medical error *The Unity of Mistakes*[96], she notes that clinical work is, by its very nature, uncertain and prone to error.[97] Later in that work she describes the effect of errors for doctors. When errors are recognised and acknowledged, "their inevitability creates the complex sorrow of medical work"[98]. This study captures well the overlapping quandaries for doctors arising from the combination of uncertainty of causation and the risk of psychological pain and other financial and professional risks, if causation is attributed to them.

2.   Knowing/Thinking traps

All human beings make predictable and often repeated errors. James Reason describes the inter-relationship between thinking and errors as a "cognitive balance sheet" where each "entry on the asset side carries a corresponding debit"[99]. Many of these "transactions" occur simply because that is how human brains function, not because of moral failure or the desire to cause harm. Correspondingly, if someone imagines that error cannot happen to

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[95]   Groopman 2007 – see note 62: page 150.

[96]   Paget MA. *The unity of mistakes – a phenomenological interpretation of medical work.* 1988 Temple University Press, Philadelphia.

[97]   Paget MA. 1988 – see note 96: Foreword at page xiii, and Chapters4-6 especially.

[98]   Paget MA. 1988 – see note 96: at page 96. Ironically, Paget died prematurely from a medical error only a year after that book was published. Her posthumous collection of writings is named after this conclusion: Paget M. *A complex sorrow: reflections on cancer and an abbreviated life.* DeVault MJ. (editor). 1993 Temple University Press, Philadelphia. In that she states: "Strangely, my knowledge of error has helped me deal with the errors in my care. Had I not known about the prevalence of error in medicine I would not have been able to process what has happened to me without bitterness. But I had thought these matters through already, and more than once. I now live out the complex sorrow I have before described." (page 20).

[99]   Reason J. *Human Error*. 1990 Cambridge University Press, Cambridge (UK): page 2.

them[100] and that perfect performance is a reasonable expectation[101], it is difficult to prevent errors or to put up barriers to stop harm. The risks of human error are compounded, where the person has multiple things on their mind, as occurs with busy doctors and other health professionals in chaotic or high stress clinical settings.

Once the ubiquity of human error is recognised, it is tempting to think that errors simply occur randomly, and that it is amazing that healthcare-related harm doesn't occur even more often. However, the science of human error has shown that:

> Human error is neither as abundant nor as varied as its vast potential might suggest. Not only are errors much rarer than correct actions, they also tend to take a surprisingly limited number of forms [that] appear in very similar guises across a wide range of mental activities [including] action, speech, perception, recall, recognition, judgement, problem solving, decision making, concept formation and the like.

Reason says that searching for these common forms "draws the searcher inwards to the common theoretical heartland of consciousness, attention, working memory and the vast repository of knowledge structures with which they interact". In professions like medicine, the vast domain of medical knowledge increases the possibility of error, no matter how expert and proficient a doctor becomes. Specific problems arise, for example where experts are "unconsciously skilled". While this is a useful way of saving working memory resources, it can also lead to predictable errors, such as "strong habit intrusion".[102] James Reason and others in the Human Error Psychology field have written extensively about the

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[100]   The issue of medical hubris as a contributor to poor patient care is alluded to in a number of introspective articles by doctors examining these issues : see for example, Dr John. Changing the Culture of American medicine – start by removing hubris. Blog post 28 July 2013, sighted on 12 March 2016 at http://www.drjohnm.org/2013/07/changing-the-culture-of-american-medicine-start-by-removing-hubris/ . Dr John is a cardiac electrophysiologist and his blog relates to a New England Medical Journal article, which showed that in studies which had evaluated established medical practice, almost half resulted in reversal of these practices in a 10-year period.

[101]   Perfectionism was identified as one of the top 10 factors impeding disclosure of medical errors in a large literature review of the field: Kaldjian LC. Jones EW. Rosenthal GE. Facilitating and impeding factors for physicians' error disclosure: A structured literature review. 2006 *Joint Commission Journal on Quality and Patient Safety*, volume 32(4), Figure 3, page 186.

[102]   Reason 1990 - see note 99: page 68. See also Dekker S. *Patient Safety: A Human Factors Approach*. 2011 CRC Press, Boca Raton (Florida USA). "Error and expertise are two sides of the same coin": page 43

common forms of human error, their likely precursors, and conditions that enhance the likelihood of both error and harm[103].

Medical error occurs, in part, because doctors work in complex, stressful and sub-optimal environments. Human error psychology shows that safer healthcare requires an understanding of the fallibility of the brain, and the creation of barriers to harm. Perfectionism, counsels of perfection in training, and denial of error in practice are unhelpful to this goal, as is denial that doctors are affected by ordinary human responses to stress. These harm-tolerant attitudes are prevalent among doctors and other health professionals. For example, in research comparing doctors and pilots[104], one in three of the intensive care respondents did not acknowledge that they made errors, and more than half said that they found it difficult to discuss mistakes. In relation to fatigue and stress, which are known to degrade all human performance, 70% of consultant surgeons believed that "even when fatigued, I perform effectively during critical times" compared to 26% of pilots. 82% believed that "True professionals can leave personal problems behind when working". While there were lower figures among other medical and nursing staff, the authors stated that "overall only a minority of [healthcare] respondents openly recognised the effect of stress on performance".

A later study, which showed similar results, demonstrated the negative impact of these attitudes on potentially protective actions. Only 40% of surgeons said they would let other team members know when their workload was excessive, and only about half felt that the level of stress or tiredness should be monitored by team members[105]. This and related research has also shown that medical teams often operate in a steeply hierarchical manner, and junior staff are discouraged from questioning the actions of senior staff.

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[103]   See eg, Reason J. *The Human Contribution – Unsafe acts, accidents and heroic recoveries*. 2008 Ashgate Publishing Limited London (UK); Dekker 2011 – see note 102.

[104]   Sexton et al. 2000 - see note 72.

[105]   Flin R. Yule S. McKenzie L. Paterson-Brown. Maran N. Attitudes to teamwork and safety in the operating theatre. 2006 *Surgeon – The Royal College of Surgeons of Edinburgh and Ireland,* olume 4(3), pages 145-151.

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These characteristics are all likely to foster an error- and harm-tolerant environment, where "individuals will place themselves in error inducing conditions" that reduce "the ability of team members to manage both threats and errors in a team environment".[106] This differs from pilots, who are trained to be aware of their own feelings of fatigue and to communicate this with their flight crew. This ensures that safety strategies are put in place to alleviate their fatigue and to have someone else checking, because of the effect of fatigue on attention.

The beliefs that someone has about their own level of intelligence, as a fixed part of their identity, can also become a risk factor for error. If intelligence is seen as an important and stable part of identity, questioning actions and decisions can be seen as a threat to identity, and so the identification of mistakes will be avoided. People become focussed "on the trait of intelligence and on proving they have it, rather than on the process of learning and growing over time".[107] Unfortunately, an intelligent human brain does not appear to be automatically protected from many of the common human "thinking traps".

Doctors have ample evidence that they are intelligent and that this is a highly valued characteristic for their chosen profession, as discussed in chapters 5 and 6. If mistakes are not acknowledged, then there is little opportunity to observe and learn from them, or act to prevent the harm which may flow from them. As one author said self-awareness is central to address the ordinary "blind spots" and biases that occur in human thinking:

> Our greatest intellectual strengths represent liabilities when they lead us to miss something that we might otherwise have noticed. They create blind spots. If we become aware of our blind spots, we can do something about them. … Once we know about this built-in limitation, we can compensate for it. … We can't totally eradicate them, since they are built into the system. But once we become aware of them, we can try to minimize the influence of their distortion.[108]

Some of these blind spots arise from very useful skills, like pattern recognition. The ability to recognise similar, but new experiences through a schema is a cognitive survival

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[106]   Sexton et al. 2000 – see note 72: at page 745.

[107]   Dweck CS. Beliefs that make smart people dumb. Chapter 2 in Sternberg RJ. (editor) *Why smart people can be so stupid* 2002 Yale University Press New Haven (USA)

[108]   Van Hecke ML. *Blind Spot.* 2007 Prometheus Books. Amherst (USA): page 22

technique that has served human beings well. As noted above, it allows the human brain to conserve important but limited working memory space for other information necessary for the new situation. For medical decision-making, it is a vital first step[109]. Unfortunately, pattern recognition capacity also can mislead, for example through anchoring bias, that puts higher weight on the first information which comes to attention[110]. It may also lead to "recognition" of a pattern when one does not exist, which is called "illusory correlation"[111].

The brain tends to look for information confirming its hypothesised pattern and to ignore variations (confirmation bias). There are many common blind spots which create a risk for patients by encouraging a doctor to miss something, which, with hindsight, looks obvious.[112] Another blind spot arises when doctors do not know that they do not know

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[109] Croskerry P. Achieving quality in clinical decision making: Cognitive strategies and detection of bias. 2002 *Academic Emergency Medicine*. November, volume 9(11), pages 1184-1204: see especially Table 2- strategies in decision making, page 1185.

[110] See eg, Strack F. Mussweiler T. Explaining the enigmatic anchoring effect: mechanisms of selective accessibility. 1997 *Journal of Personality and Social Psychology*, volume 73(3), pages 437-446.

[111] See eg Hamilton DL. Gifford RK. Illusory correlation in interpersonal perception: a cognitive basis of stereotypic judgments. 1976 *Journal of Experimental Social Psychology*, volume 12(4), pages 392-407.

[112]   Some practical examples of blind spots in medicine are:

- focussing on a specific detail and ignoring the bigger picture, such as focussing carefully on a specific organ in an operation, and accidentally nicking a major blood vessel;

- not thinking sufficiently before acting, such as sending someone home when it is a busy night without doing a specific test, which would ensure the patient's complaint was not an imminent threat to life;

- jumping to conclusions without seeking better information, for example assuming that a fat patient's problems are weight related when they are not;

- simply not noticing an important piece of information or forgetting to ask, for example, a patient's allergies, or not checking what was in the syringe before they inject a patient;

- not seeing themselves and their actions as others see them, for example, when a senior doctor provides a shaming response to a young doctor who asks a question;

- seeing everything through their own personal, doctor lens, for example, a doctor labelling a patient's failure to take medicine as "non-compliance", without asking the patient why they aren't taking their medication – further inquiry might reveal issues that the doctor could address, for example, if the patient cannot open the bottle, cannot read the instructions, cannot remember when to take it, or the medicine makes them feel ill;

- using their own values and beliefs as evidence or to reinforce ambiguous evidence, for example, a regular patient who is seen as a complainer comes for a consultation outlining further non-specific symptoms and the doctor dismisses the patient without checking his or her vital signs or ordering tests, with the result that the patient's cancer remains undiagnosed until too late.

something and assume they do[113]. There are ways to tackle these and other blind spots and to reduce their potential for negative impact on patients. However, to put in place barriers to address blind spots requires a recognition that they exist and can impact on practice.[114]

The feeling of "knowing" and of "being certain" involve other processes of the mind, which can give rise to medical errors and preventable patient harm, or to mistaken "knowledge" about events. While the issue of uncertainty provides a fertile ground for alternative explanations for preventable patient harm, absolute and unquestioning certainty can also provide a strong defence of identity. In this case, no alternative explanation is necessary, because the person "knows" what they did was right. The processes of laying down memory and the brain's construction of "knowing" can, in fact, mislead someone about what, in fact, happened. This is particularly so when alternative explanations of events may give rise to threats to identity. The incontrovertible understanding of an event that is "known" with certainty may, in fact, be a creation of the brain itself, rather than observable facts.

A study of students' recollections of what they were doing when they first heard of the Challenger space shuttle disaster compared an immediate post event diary record (recorded the following day) with a recollection two and a half years after[115]. Only 25% of the students who participated in the second questionnaire even recalled having completed the survey immediately after the disaster[116]. Despite this being the kind of "flash bulb" memory that people would be expected to clearly recollect, the two records were quite different for the majority of the students who participated. The accuracy of the subsequent recollection had a mean score of only 2.95, when 7 was a perfect match[117]. 7% of students

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113   This is called the Dunning-Kruger Effect eg. Hodges B. Regehr G. Martin D. Difficulties in recognising one' own incompetence: novice physicians who are unskilled and unaware of it. 2001 *Academic Medicine. October, volume 76(10 Supplement), s87-89.*

114   Van Hecke ML. 2007 – see note 108. This book sets out a range of common "blind spots" with strategies for how these can be tackled to reduce their incidence and to allow understanding of how they arise.

115   Neisser U. Harsch N. Phantom Flashbulbs: False recollections of hearing news about Challenger. Chapter in Winograd E. Neisser U. (editors) *Affect and Accuracy in Recall: Studies of "Flashbulb" Memories.* 1992 Emory Symposia on Cognition, Cambridge University Press, New York: pages 9-31.

116   Neisser et al. 1992 – see note 115: page 14.

117   Neisser et al. 1992 – see note 115: page 18.

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had a 7 score. 25% were wrong about everything and 50% scored 2 or less. Perhaps the most interesting result was that there was no significant correlation between the accuracy of their recall and their *certainty* of its accuracy at the time of recall. When they saw their conflicting responses, many still only "remembered" their false recollection and had no memory of the event as recorded at the time.[118].

Hindsight bias is another example of this kind of response. Hindsight bias has a complicated role in relation to error. People who are involved can recast the events to avoid an identity-threatening dissonance [119], which can result in very different "factual" stories about an incident. This is not because any of these people are lying and seeking to deceive, – rather their subconscious mind has either selectively remembered or even altered facts[120]. This bias also affects those who are looking at an incident, once they have an outcome to consider. James Reason warns that:

> Being blessed with both uninvolvement and hindsight it is a great temptation for retrospective observers to slip into a censorious frame of mind and to wonder how these people could have been so blind, stupid, ignorant or reckless. … The perceptual biases and strong-but-wrong beliefs that make incipient disasters so hard to detect by those on the spot also make it difficult for accident analysts to be truly wise after the event. Unless we appreciate the potency of these retroactive distortions, we will never truly understand the realities of the past, nor learn the appropriate remedial lessons.[121]

Mortality and Morbidity Committees and many Risk Management investigations are examples of these kind of retrospective, simplification processes. The complexity of the actual event may be ignored in the hunt for a responsible person. Rather than an effort to tease out complexity to learn from mistakes, the process can become a 'blame and shame' process for all concerned, with simplified presentations of right and wrong. These pay little attention to the environmental and personal complexities that exist around most instances of preventable patient harm. Alternatively, they can become exculpatory forgiveness or responsibility avoidance processes. Neither of these are effective ways of "learning from

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[118] Neisser et al. 1992 – see note 115: pages 21 and 25-26.

[119] An excellent example of this is provided in the following editorial by the Chair of the Australian Patient Safety Foundation, Professor Bill Runciman. Runciman WB. Complete Retrograde Dysmnesia. 1995 *Journal of Clinical Monitoring,* January, volume 11(1), pages 3-4.

[120] Fine 2005 – see note 70: "The Deluded brain – a slapdash approach to the truth": pages 59-85.

[121] Reason J. 1990 – see note 102: at pages 214-215.

mistakes" by examining what happened. Both processes and outcomes will discourage the recognition of errors as part of everyday reflection on practice.

In Caplan, Posner and Chaney's classic 1991 study on hindsight bias[122], they looked at whether outcome affected judgments about the quality of care in peer review based on an implicit standard of care. 1500 closed claims cases were drawn from 22 malpractice insurers, and were included in the study where there was either a temporary or permanent injury, the outcome of which could readily be changed and where there was no gross error or obvious breach of clinical management. The 21 cases that fulfilled these criteria were then made into 2 matched sets, with only the outcomes changed. Changes were between a permanent injury and a temporary one. Doctors were asked to determine whether the care was appropriate, whether it was less than appropriate or whether it was impossible to tell. When a temporary injury was changed to a permanent one, the decision about care being appropriate decreased by 31%, while less than appropriate care increased by 14% and "impossible to judge" went up by 17%. When the movement was the other way, (outcome from permanent to temporary harm), the appropriate care rating increased by 28%, less than appropriate care decreased by 12% and "impossible to judge" decreased by 16%. While this study clearly shows the impact of hindsight bias, it also confirms the defensive or avoidant use of uncertainty discussed above. When the outcome was more serious, a significant proportion of the bias shifted from certainty of appropriateness to "impossible to judge", rather than "less than appropriate", and vice versa when the outcome was temporary harm.

Hindsight bias can also result in an exaggeration of moral culpability and an imputation of awareness and knowledge which was not possible at the time. Anthony Hidden QC, the Chief Investigator of a British railway accident in 1988 at Clapham Junction, that resulted in 35 deaths and 500 injuries, outlined the risks associated with hindsight bias in his report:

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[122] Caplan RA. Posner KI. Cheney FW. Effects on the outcome of physician judgments of appropriateness of care. 1991 *Journal of the American Medical Association,* volume 265(15), page 1957-1960.

There is almost no human action or decision that cannot be made to look more flawed and less sensible in the misleading light of hindsight. It is essential that the critic should keep himself constantly aware of that fact.[123]

Sidney Dekker in his book on *Patient safety* talks about how both the people involved in adverse events and errors, and investigators often assume blame lies on themselves or someone else. Those involved are wracked with guilt about their role and the "if only" thoughts that tell them, after the fact, that they could have avoided the harm if they had just acted differently. The reality may be far different, but the tendency is encouraged by the underlying acceptance that perfect performance is a consistently achievable end-point.[124]

A lack of awareness of hindsight bias can result in psychological threat responses for everyone engaged in healthcare delivery and, particularly, those subject to peer review. It can also lead to inappropriate self-blame and inappropriately retributive processes characterised by humiliation and shame. These are likely to act as limbic triggers both consciously and unconsciously, which make future detection and action on errors and preventable patient harm less likely.

3.   Stereotypes, special skills and vulnerabilities

Doctors are selected for high academic achievement, which tends to attract people who have common psychological characteristics even before they become doctors, as is discussed in detail in Chapter 5. Different characteristics can be associated with particular specialty groups and this may result in poor communication between specialists. In addition, doctors and other health professionals may have quite different "lenses" on the same information. A simple example of this comes from the studies of operating theatre teams discussed above. These teams consist mainly of surgeons, anaesthetists and nurses. Surgeons consistently rated their teamwork with other surgeons and residents as high (64%) and their overall teamwork even higher (73%) while the anaesthetic and nursing

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[123]   Hidden A. *Investigation into the Clapham Junction Railway Accident*. Department of Transport. November 1989 HMSO, London: page 170. A copy of this report is available on the web at http://www.railwaysarchive.co.uk/documents/DoT_Hidden001.pdf

[124]   Dekker 2011 – see note 102: page 46.

staff rated their overall view of the teamwork in these same teams much lower than their consultants (10-28%)[125].

Characteristics associated with medical trainees include perfectionism, determination to succeed, "quick thinking", and high respect for academic achievement and success. Many of these have both positive roles and potential downsides when it comes to addressing preventable harm to patients. For example, trying not to make mistakes and associating perfect performance with being a good doctor produces a range of positive goals. However, when inevitably errors occur or patients suffer harm, these laudable goals also result in psychological defences at both the conscious and unconscious level that make the continuation of error and harm more likely. Similarly, while decisive action might be a good attribute in an emergency where someone's life is in peril, this can come with a desire for action without consideration of other options or when a delay may lead to better outcomes. Wrong heuristics, while speeding up the decision-making process, can also lead to harmful results for patients, when a more reflective, questioning approach may have avoided it.

The training of doctors seeks to encourage important skills for doctors such as the capacity to make decisions where information is incomplete, sometimes very quickly and in a crisis, and to determine diagnosis, which is an advanced form of pattern recognition as discussed above. This uses the schema mechanisms in the brain to sort patients and symptoms and can often allow rapid perception of necessary information and conclusions from this. This skill of pattern recognition and attribution is also what underpins the development of stereotypes, which can quite often be misleading or result in harm to patients. This can be whether the stereotype is positive or negative. One example of this is provided in Groopman's book *How Doctors Think*,[126] when he describes a young doctor who sees an extremely fit, 40-year old park ranger who was experiencing chest pain. He looked extremely healthy and after doing a range of tests, the doctor reassured the patient he could go home. Unfortunately, his appearance belied the existence of unstable angina. The next morning the park ranger returned with a myocardial infarction, which fortunately was not

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[125]   Sexton et al. 2000 – see note 72: Differing perspectives of teamwork in medicine at page 747.

[126]   Groopman J. 2007 – see note 62: see especially Chapter 2, pages 41-44.

fatal. The doctor reflected that the patient looked too healthy for it to be a heart attack. While the doctor identified in a positive way with the patient, this was, nonetheless, an unsafe situation for the patient. This kind of stereotyping can lead to "representative" errors. Nonetheless, there is evidence that when a patient and doctor like each other, the quality of care is better than if this mutual affection is absent[127].

Groopman[128] notes that far more common is the attribution errors associated with negative stereotypes, which research has shown can have a negative impact on the quality and nature of medical care the person receives. It has long been recognised that as human beings, doctors can experience negative emotions in relation to their patients and when the doctor feelings "are disowned or denied, errors in diagnosis and treatment are more likely to occur."[129]. A considerable body of evidence exists that patients, who do not conform to expected "good patient" behaviour or other norms, can experience poorer healthcare and poorer outcomes. Such negative attitudes arise towards patients with mental illness or drug and alcohol problems. Researchers believe this contributes to the significantly worse general health outcomes for patients with a co-morbid medical condition with their mental illness.[130] Similarly, people who self-harm, even when admitted as psychiatric patients, are not 'liked' as patients and often have worse outcomes.[131] In a 2012 systematic review of

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127   Hall JA. Horgan TG. Stein YS. Roter DL. Liking in the physician-patient relationship. 2002 *Patient education and counselling*, volume 48, pages 69-77.

128   Groopman 2007 – see note 62: pages 44 and following

129   Groves JE. Taking care of the hateful patient. 1978 *New England Journal of Medicine* 20 April, volume 298(16), pages 883-887: at page 887.

130   Noblett JE. Lawrence R. Smith JG. The attitudes of general hospital doctors toward patients with comorbid mental illness. 2015 *International Journal of Psychiatry in Medicine*, November, volume 50(4), pages 370-382.

131   In a number of studies in the 1960s, it was shown that patients who were perceived as "troublesome, as demanding too much attention, and as not fitting in with the general pattern of ward behaviour" and "made a poor relationship with the doctors and nursing staff" were more likely to have a short length of stay, to leave against medical advice and to commit suicide See Flood RA. Seager CP. A Retrospective examination of psychiatric case records of patients who subsequently committed suicide. 1968 *British Journal of Psychiatry*, volume 114, pages 443-450: see especially pages 449 -450; House A. Owens D. Patchett L. Deliberate self-harm. 1999 *Quality in Healthcare*, volume 8, pages 137-143, where it was noted that "people who harm themselves are not popular with health services staff … Self harmers suffer from the stigma of psychiatric problems and they are often seen as undeserving and detracting from the clinical care of others whose illnesses are not perceived as self-inflicted" (page 138); Saunders KEA. Hawton K. Fortune S. Suhanthini F. Attitudes and knowledge of clinical staff regarding people who self-harm: A systematic review. 2012 *Journal of Affective Disorders,* volume 139, pages 2015-216, which showed that most staff (except psychiatric staff) had negative attitudes,

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studies on the attitudes of clinical staff to patients who self-harm, one of the reasons given for the particularly negative attitude of medical staff to these patients was that doctors describe feeling frustrated, helpless and as failures when dealing with these patients.[132]. These emotions impact on and derive from the Doctor Identity.

Other stigmatised groups in healthcare are those who are fat[133]; those who have certain diseases[134], those who have intellectual disabilities[135] and a range of other people, particularly those who are blamed for causing the problem they have by their "life-style choices"[136]. These groups can be argued to have "spoiled identities" in healthcare. Where someone's identity is seen as spoiled, Goffman describes it as a deeply discrediting form of social identity, which is incongruous with the "normal" stereotype[137]. For example, people who smoke and suffer some variety of obstructive pulmonary disease are sometimes seen by medical and nursing staff as authors of their own bad fortune, who were not strong enough to stop smoking and so, less worthy of healthcare. People worthy of healthcare are those who look after themselves properly, according to whatever the current meaning attributed to the term. This can result in carers and patients having to emphasise that their condition is idiopathic or has some other non-stigmatised cause, rather than smoking induced, to avoid the negative stigma.

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particularly to those who repeatedly self-harmed. Perhaps of most relevance here, the attitudes of doctors in the general hospital was the most negative (page 213).

132 Saunders KEA et al. 2012 – see note 131: page 213.

133 Pausé C. Die another day: the obstacles facing fat people in accessing quality healthcare. 2014 *Narrative Inquiry in Bioethics,* volume 4(2), pages 135-141. Pausé describes fatness as being a "spoiled identity" – this is where someone is "held responsible or blamed for the stigma" they experience. This is a common problem in a range of healthcare services, when the health system names the conditions "life style" related. See also, Salder JZ. Risk Factor Medicalization, Hubris and the Obesity Disease. 2014 *Narrative Inquiry in Bioethics,* volume 4(2), pages 143-146

134 See eg, Sartorius N. Stigmatized illnesses and healthcare. 2007 *Croation Medical Journal,* volume 48, pages 396-7: this doctor lists AIDS, sexually transmitted diseases, leprosy and certain skin conditions. It is likely that some of the stigmatised diseases will change over time with increased knowledge and awareness in any country. However, the stigma against some conditions is remarkably constant in healthcare eg mental illness.

135 While AE. Clark LL. Overcoming ignorance and stigma relating to intellectual disability in healthcare: a potential solution. 2010 *Journal of Nursing Management,* volume 18, pages 166-172.

136 "Life style choices" can be a very elastic concept and varies over time, but inevitably has moral overtones of failed volition, even though it is recognised more broadly that health inequalities and risk factors are often socio-economically determined.

137 Goffman E. *Stigma – Notes on the Management of Spoiled Identity.* 1963 Touchstone, New York: see especially Chapter 1.

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Whether the patient fits a positive or negative stereotype, this can influence the clinical judgment of their treating doctor, and create a risk of harm for the patient. A doctor needs to be aware of their potential cognitive biases, and of their emotional reaction to specific patients (whether positive or negative). This conscious self-knowledge is important to reduce the errors and potential harm which can proceed from these biases.[138]

D. Actively Defending the Doctor Identity

Once medical errors (particularly that causing preventable patient harm) come to conscious awareness, another set of defences come into play. Within the broad rubric of cognitive dissonance theory, these actively defend the doctor's self-schema when anything that is inconsistent with this schema challenges it. It is an active defence mechanism for the Doctor Identity, and when a primary identity is threatened, it happens automatically. To those on the outside, it can be seen simply as denial, as a defensive stance, as self-justification. In many ways that is exactly how it functions. Even with self-awareness and an understanding of how cognitive dissonance works, it can be hard not to fall into its characteristic pattern of reaction. The greater the threat to identity, the stronger is likely to be the defence.

1. An outline of Cognitive dissonance theory

Cognitive dissonance theory relates to the human need to resolve conflicting beliefs and information, which otherwise produce distress and anxiety. The theory was originally developed from the work of Leon Festinger[139], and has been subject to extensive experimental confirmation over the past 50 years[140]. Psychological understanding of human motivation and decision-making until then had mainly been governed by the behaviourist approach, which saw all human behaviour as explainable in terms of reward and punishment, as had been shown in many animal behaviour experiments. However,

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[138] For details of how more potential impacts of bias and how to detect it and reduce its negative impact o clinical decision making, see: Croskerry 2002 – see note 109.

[139] Festinger L. *A theory of cognitive dissonance*. 1957 Stanford University Press, Stanford.

[140] Harmon-Jones E. Mills J. (editors) *Cognitive Dissonance: Progress on a Pivotal Theory in Social Psychology*. 1999 American Psychological Association Washington DC.

human thinking has been shown to be much more complex than this. For example, if people go through pain, effort or discomfort to achieve a goal, they have often been shown to be happier with the achievement of that goal, than if they had not been through the negative experience[141]. While such a conclusion is an anathema to a behaviourist world-view, the theory of cognitive dissonance provides a "rational" explanation for it.

The theory of cognitive dissonance says that when someone holds two cognitions – that is beliefs, ideas, attitudes or opinions - that are psychologically inconsistent, then this dissonance produces mental discomfort, which might range from minor tension to deep anguish. The tension or discomfort does not reduce until the person has found a way to reduce the dissonance.[142] In the preceding example, the two potentially dissonant cognitions are "I am a sensible person, who would not voluntarily suffer pain without great benefit" and "I have just been through a lot of discomfort for something that has no inherent value". To conclude that the end-point was not worth the effort brings the self-perception as being a sensible person into doubt. Instead, a person concludes that the thing gained must be worthwhile and valuable – a process called self-justification. Self-justification occurs often at a subconscious level, because of the human psychological need for consonance and sense-making:

> Dissonance is disquieting because to hold two ideas that contradict each other is to flirt with absurdity and … we humans are creatures who spend our lives trying to convince ourselves that our existence is not absurd. Festinger's theory is about how people strive to make sense out of contradictory idea and lead lives that are, at least in their own minds, consistent and meaningful[143].

This process is even more likely when the dissonant information is a direct threat to the person's identity.[144] So strong is the psychological desire for consonance that when

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141 For example, a ritual for entry into a club or the training and socialisation of doctors through internship. See eg, Aronson E, Mills J. The effect of severity of initiation on liking for a group. 1959 *Journal of Abnormal and Social Psychology*, volume 59, pages 177-181; Gerard H. Mathewson G. The effects of severity of initiation on liking for a group – a replication. 1966 *Journal of Experimental Social Psychology*, 1966, volume 2, pages 278-287.

142 Tavris C. Aronson E. *Mistakes were made (but not by me) – Why we justify foolish beliefs, bad decisions and hurtful acts*. 2007 Harcourt Books, Orlando (USA): page 13.

143 Tavris et al. 2007 – see note 142: pages 13-14.

144 See eg, Munro GD. Stansbury JA. The Dark Side of Self-Affirmation: Confirmation bias and illusory correlation in response to threatening information. 2009 *Personality and Social Psychology Bulletin*, volume 35, pages 1143- 1153.

presented with information that is inconsistent with the dissonance resolution, people will find ways to disregard the new evidence, either by reading down its significance and discounting it, criticising it or distorting it – another example of the power of "confirmation bias"[145]. This is an important concern in the prevention of patient harm, as decisions which arise from the heuristics used to manage the natural uncertainties in medicine are particularly subject to this and other kinds of biases[146].

Recent neurological research has shown that the desire for resolution of dissonance is hardwired into the way the brain processes information. The reasoning part of the brain virtually shuts down when faced with dissonant information and those parts of the brain, which register emotion, respond positively when consonance is restored.[147] Once a decision is made or a belief held, the brain's natural tendency is to notice evidence that confirms the decision or belief and to ignore, or label as irrelevant, any evidence which disagrees. The mind will unconsciously "scan" dissonant evidence out of conscious awareness, or where it is impossible for this to occur, read down the importance of the conflicting evidence or derogate the source of the information. This is called "motivated reasoning".[148] While in some forms of thinking, intelligence is a factor that can reduce the effect of some biases, there is growing evidence that having higher than average intelligence is unlikely to prevent My-side Bias, associated with motivated reasoning, from happening.[149]

The intensity of the cognitive dissonance felt by someone is affected by the importance and relevance of the sources of the conflicting information, and the importance of the issue over

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[145]   Nickerson R. Confirmation Bias: A ubiquitous phenomenon in many guises. 1998 *Review of General Psychology*, volume 2, pages 175-220.

[146]   Unless conscious reflective processes are put in place to enable careful consideration of inconsistent data or information, normal biases may lead to wrong conclusions and potentially to harm. It is also why on-going outcome data gathering is needed in medicine and why doctors understanding what constitutes "evidence" in medicine and what the evidence shows is so important.

[147]   Jarcho J. Berkman ET. Lieberman MD. The neural basis of rationalization: cognitive dissonance reduction during decision-making. 2011 *Social Cognitive and Affective Neuroscience*, volume 6(4), pages 460-467.

[148]   Kunda Z. The case for motivated reasoning. 1990 *Psychological Bulletin*, volume 108(3), pages 480-4978.

[149]   Stanovich KE. West RF. Toplak ME. Myside bias, rational thinking and intelligence. 2013 C*urrent directions in psychological sciences*, volume 22(4), pages 259-264.

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which the potential dissonance occurs. Dissonance does not arise in a period when a person is gathering information and has not yet made a decision. At that point there is no position to defend. Especially where an important decision involves making a moral choice or a life option, Aronson and Tavris describe the decision as sitting at the peak of a pyramid. At that point the various options may seem very close and require considerable weighing up. However, once a decision is made, the process of self-justification results in the options moving further and further apart in the mind of the decision-maker, and this can have an important consequence where two people make different decisions at the decision-point.[150]

Cognitive dissonance and the need for self-justification are likely to be strongest when a doctor's care leads to a patient's preventable death or harm. The admission of a mistake or harm produces a major threat to the Doctor Identity and is thus a deeply psychologically troubling event. The Doctor Identity includes several components: their way of seeing themselves (an individual personal identity); how they are perceived by others (a social identity); and their membership of "the medical clan" (professional "group" identity). Each of these components of the Doctor Identity are threatened by this event.

Doctors may feel a failure in their own eyes, and in the eyes of the patient. At least as significantly, doctors feel the critical eyes of their peers. Doctors gain much of their personal affirmation and sense of self-worth from the approval of the medical group[151]. Fear of loss of their positive perception is therefore another significant threat to identity. This is even more so when a doctor's professional and personal identity are, to a large extent, one and the same. The need to resolve the cognitive dissonance between harming a patient, being a good doctor, or arguably a doctor at all, and at the deepest level a good person, results in further complex psychological responses.

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[150] Tavris et al. 2007 – see note 142: page 33.

[151] Beginning with the work of George Herbert Mead set out posthumously in *Mind, Self and Society: from the standpoint of a Social Behaviorist.* 1934 University of Chicago Press, Chicago, and that of Charles Horton Cooley in *Human Nature and the Social Order* 1902 Charles Scribner's Sons, Chicago, the relationship between self-perception and the perception of self by others (particularly those identified with groups who someone sees themselves as a member of) has been recognised as critical to someone's identity and their sense of self-worth. See, eg Shaffer LS. From Mirror Self-recognition to the Looking-Glass Self: Exploring the Justification Hypothesis. 2005 *Journal of Clinical Psychology*, volume 61(1), pages 47-65.

2.   The resolution of dissonance and psychological defences

Denial is the first way of resolving dissonance. The doctor may deny there was harm, deny that it was preventable or deny that they were responsible for the harm. Where denial is not possible, dissonance reduction and self-justifications of decisions and actions come in many forms, which broadly fit in three groups:

- *Diminutions* –These are statements which reduce either the significance of the issue, or the contribution of the action or decision to any harm caused. Some common healthcare examples are: "The patient was seriously ill and was likely to die soon anyway", "The evidence was ambivalent and I took my best shot", "With all the chaos that night, it is not surprising that I forgot to do it". "Anyway, despite all the problems, it all ended up OK."

- *Support-seeking* – This involves talking to others (particularly peers) who will confirm that what was done was the only sensible thing; that they would have done the same thing in those circumstances; and that there was no other real choice. Self-affirmation is actively sought in situations of identity threat. [152]Confirmation bias strongly influences the choice of people or support sought, so that conflicting opinions or evidence is likely not to be obtained or to be disregarded, diminished or derogated.

- *Derogation*–Dissonance reduction statements based on derogation often include negative or blame-worthy statements about the patient: "The patient was old/sick/fat/confused/mentally ill" or fulfilled some other stereotype which meant they could, in fact, be blamed for what occurred to them. It can also include negative statements about someone who has drawn attention to the problem in the healthcare team. For example: "The doctor or nurse who was critical of an action is inexperienced/ young/old/ irritating/ not a team player/ foreign" or another stereotype which allows their dissonant voice to be ignored or silenced.

Self-justification can often lead to a vicious cycle, where actions and self-justifications create further tensions and problems, particularly between healthcare team members. For example, where a nurse draws attention to a doctor's error in time to stop a patient being

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[152]   Steele CM. Spencer SJ. Lynch M. Self-image resilience and dissonance: the role of affirmational resources. 1993 *Journal of Personality and Social Psychology*, volume 64(6), pages 885-896.

harmed, it is not unusual for the doctor concerned to ask for the nurse to be disciplined or fired.[153] From an external or patient perspective, the doctor might be expected to be grateful that the error was picked up before any real harm had occurred. However, such a consequence makes sense in the context of cognitive dissonance resolution. The external assertion that the doctor made an error creates so much cognitive dissonance for the doctor, that he or she needs to believe that the other person should be ignored. Casting them as unprofessional and to be dismissed confirms that any of their assertions are valueless. In institutions where the power differential is greatest, and those in the high-power positions are doctors, a nurse who acts in this way may be seen as insubordinate and to have questioned the power of the hierarchy. Cognitive dissonance could arise from merely being questioned.

The resolution of cognitive dissonance is different from deliberate dissimulation, though the end effect may seem similar to a patient or family. Cognitive dissonance occurs essentially unconsciously as a response to the actual or perceived insoluble conflict between two pieces of information. The ethics professor, John Banja[154], describes the operation of cognitive dissonance in relation to preventable patient harm as a series of avoidant and deflecting actions, which if "successful, they will result in the health professional's having minimized the error, its harm or his responsibility for it'. Self-justification and the tools that reduce cognitive dissonance fulfil that role.

3. The biological reality of threat responses

When psychological or physical stress is experienced, physiological stress responses occur that are deeply rooted in human biology. Connected to the deeper parts of the brain, the limbic system responds with a flood of hormones, which results in changes in heart rate, blood pressure, sweating, cessation of bodily movements and the facial expressions associated with fear. The messages from these parts of the brain are powerful and designed

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[153]   Johnson C. Bad blood: Doctor-nurse behaviour problems impact patient care. 2009 *Physician Executive Journal*. November – December issue, pages 6-11: Table 6, page 8.

[154]   Banja J. *Medical errors and medical narcissism*. 2005 Jones and Bartlett Publishers, Boston see page 88 and chapter 2.

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for human survival. They are known to override the messages associated with knowledge and reasoning.

A fear response comes principally from the amygdala[155] – the part of the brain that recognises, processes and remembers emotional reactions. Such feelings are deeply embedded in the neural circuitry of the human brain and can be triggered even before there is conscious awareness or actual knowledge of a reason for fear. At a human survival level, this has important biological advantages. If one had to know intellectually that the sabre tooth tiger was about to pounce, the chances of avoiding being eaten would have been significantly reduced. However, even where the cause of the fear is more abstract, for example, where there is a fear of professional shame, of being wrong, or of harming a patient, the biological consequences are the same.

The initial physiological response cannot be prevented by reason. The brain does not allow this, with the trigger going first to the autonomic system, and only later to the neo-cortex. At best, training for a fear-inducing event can create other automatic reactions, even when the fear response is triggered. For example, soldiers can be trained to run towards harm in a battle situation; pilots can be trained to follow emergency procedures to avoid a plane crash when something unexpected and dangerous occurs; or doctors can be trained to follow an emergency algorithm when a patient gets into trouble in surgery.

However, such training requires a clear awareness of the risks and the circumstances when they arise, and more importantly an acceptance and an understanding that people (including doctors) are first and foremost human beings, subject to the same biological impediments to the operation of reason as everyone else. Doctors also need to understand that responses to these human vulnerabilities, which give a doctor a better chance to use his or her reasoning brain, can be taught through appropriate training, reflection and practice[156].
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[155]   LeDoux J. The emotional brain, fear and the amygdala. 2003 *Cellular and Molecular Neurobiology*, volume 23(4/5), October, pages 727-738.

[156]   While emergency response algorithms can allow doctors to respond quickly, there is always a need to ensure that doctors can calm themselves sufficiently to correctly identify the right emergency response or to vary their response, because the trained response may not be completely appropriate in the circumstances.

4.   Examples of these effects in preventable patient harm

These powerful psychological mechanisms relating to a threat to identity apply to all humans. It is a natural protective mechanism for physical survival and well-being. Medical error and patient harm can be seen as by a Doctor as a threat to his or her psychological existence, which can have a profoundly negative effect for patients and doctors.

One consequence can be a gradual shift in a doctor's ethical practices, through a series of minor shifts to resolve dissonance, followed by self-justification of the shifts. For example, non-disclosure of a known error "for the patient's benefit" can lead by small increments to further secrecy and self-justification, until significant issues remain uncommunicated. Memory itself comes to the aid of identity protection, as it unconsciously trims and even fabricates personal experience to protect the self. The cognitive bias of "beneffectance" shapes memory so that "people perceive themselves readily as the origin of good effect and reluctantly as the origin of ill effects" or they tend "to take credit for success while denying responsibility for failure".[157] In addition, once one has gone down such a path, it can be difficult to determine when to stop or change direction[158]. The individual may have lost their original sense of what is the appropriate thing to do, but be completely unaware of shift. In the words of Tavris and Aronson "How do you get an honest man to lose his ethical compass? You get him to take one step at a time, and self-justification will do the rest."[159] Similarly, once self-justification has operated on any dissonant views of the events, and memory has been doing its work in service of the Self, the person actually believes their understanding of events to be true. Once someone has "justified his actions to himself, believing that he has *the truth*, [he] becomes impervious to self-correction".[160]

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[157]   Greenwald AG. The totalitarian ego – fabrication and revision of personal history. 1980 *American Psychology*, July, volume 35(7), pages 603-618: at page 605.

[158]   In the famous experiment by Milgram where people were asked to administer an electric shock to help people learn, gradually the amount of shock given was increased and two-thirds of the participants kept going to the dangerous level small increment by small increment, each time justifying to themselves the apparently increasing level of distress of the "learner". While the study is generally given as proof of obedience to authority, Carol Tavris and Elliot Aronson describe it also as "a demonstration of long term results of self-justification". Tavris et al. 2007 – see note 142: pages 36-37. For detailed information about the range of Milgram's experiments in this area, see Milgram S. *Obedience to authority – an experimental view*. 1974 Tavistock Publications, London.

[159]   Tavris C. 2007 – see note 142: page 37.

[160]   Tavris C. 2007 – see note 142: page 7.

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The immediate impact of cognitive dissonance on patient harm is that errors that are seen by someone may go unremarked and consequent harm may occur. Perhaps more insidiously, it breeds a harm-tolerant culture, where errors are less likely to be noticed and brought to awareness by anybody. It may be argued that this results in normalisation of preventable harm, which could lead to higher levels of death and disability in health care. Some evidence to support this view comes from doctors, who participate in "adverse event" studies. Many are shocked at the levels of harm discovered. For example, a study of the intensive care unit at the Royal Children's Hospital in Melbourne, reported in 2010[161], showed a quarter of all children treated in the Intensive Care Unit suffered preventable harm over a period of 176 days. There were 405 adverse events affecting 165 patients, 28 per cent of which required a significant medical intervention and 3 per cent of which resulted in death or permanent disability. Only 40% of these were recorded in the hospital's voluntary reporting system, which recorded 166 events affecting 100 patients. There were no catastrophic results noted in the voluntary reporting system and only 2% were identified as requiring significant medical intervention. When the doctors were interviewed by *the Age* newspaper, one of the researchers Professor Tibballs, who is a senior intensive care specialist at that hospital, described the research as suggesting "an epidemic of adverse events … that the medical and broader population knew little about". He criticised current sentinel event recording as "trying to tell the score in a football match by watching the number of footballs that come over the stadium wall – very few footballs come over the wall."[162] The normalisation of patient harm is sometimes more easily observed by "outsiders". For example, in relation to the above study, Professor Jeff Richardson, a health economics professor at Monash University said that:

> it was astonishing the so little had been done since the Quality in Australian Healthcare study in 1995 estimated that about 12,000 Australians were dying each year because of preventable adverse events. The issue of adverse events in the

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[161] Silas R. Tibballs J. Adverse events and comparison of systematic and voluntary reporting from a paediatric intensive care unit. 2010 *Quality and Safety in Health Care*, volume 19(6), pages 568-571.

[162] Madew J. Hospital blunder probe. 2011, 7 March: accessed via the internet on 12 August 2011 at: www.theage.com.au/victoria/hospital-blunder-probe-20110306-1bjmn.html

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Australian healthcare system should dominate all others. However, it would be closer to the truth to describe it as Australia's best kept secret.[163]

Historically, the landmark research of sociologist Marcia Millman, published in 1977 in *The Unkindest Cut – Life in the Backrooms of Medicine*[164] described as pervasive this normalisation of harm and the use of the tools of cognitive dissonance by doctors in dealing with mistakes and patient harm. Professor Millman's observations were carried out over two years, as she studied the doctors and staff of a private US University affiliated hospital. Her observations about medical mistakes still resonate today:

> To protect themselves against [the extraordinary feelings of responsibility for damaging a life that has been entrusted to their care], those in the medical profession employ several collective rationales for distancing themselves from the outcomes of their mistakes. … [O]ne could not hope to understand what medical work is about without understanding how the neutralization of mistakes fits into the ideology and organization of medical work. By "neutralization" of medical mistakes I mean the various processes by which medical mistakes are systematically ignored, justified or made to appear unimportant or inconsequential by the doctors who have made them or those who have noticed that they have been made. At every stop and turn of medical work, there are built-in professional protections for the doctor against having to recognize and take responsibility for mistakes made on patients. These defences against acknowledging mistakes reside in the very heart of medical work, philosophy and organization. Furthermore, every aspect of medical work is shaped by this group collusion to ignore and justify errors.[165]

While these comments related to observation made about 40 years ago, consumers who have participated on quality and safety committees and in clinical audit processes continue to make similar observations about the cultural protection and self-justifications inherent in many processes of peer review.[166]

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[163]   Madew J. Thousands dying from preventable hospital errors, says professor. 2011, 8 March: accessed via the internet on 12 August 2011 at: http://www.theage.com.au/national/thousands-dying-from-preventable-hospital-errors-says-professor-20110307-1bl7e.html

[164]   Millman M. *The Unkindest Cut – Life in the Backrooms of Medicine*. 1977 Morrow Quill Paperbacks, New York.

[165]   Millman 1977 - see note 164: page 91.

[166]   From the author's own observations and from comments made by consumer representative to the author. See also Banja 2005 – see note154: Appendix 1 – Error rationalization and the somatically marking brain, pages 205-214.

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E. Emotional responses to medical errors and preventable patient harm

1. Introduction

Despite all the above self-protective processes, a doctor may have to acknowledge, either personally or to others, that his or her actions involved a significant error or harmed someone. There are several common psychological responses to this explicit threat to the Doctor identity, including fear, shame, guilt and humiliation. In his classic research on the impact of their errors on doctors[167], Christensen states:

> Discussion with physicians about the emotional impact of their mistakes has been equivalent to a descent into the underworld of medicine. It is a journey into a place of shame, fear and isolation.

That study also noted the presence of longer term mental health disturbances including depression and anxiety.[168] The intensity and duration of the emotions experienced appeared to depend not only on the doctor's reported sense of his or her identity as a doctor, but on events which followed the error that often caused further shame and humiliation.

Some of the emotions doctors experience if they believe they are responsible for patient harm are "basic emotions", like fear, sadness and sometimes anger. The six basic human emotions are fear, anger, sadness, surprise, happiness and disgust, and these are identified as being shared by all humans across cultures, evidenced by similar facial expressions.[169] Homologous emotions appear to exist in a range of other mammals, with basic emotions understood to be driven from the evolutionally older parts of the brain that humans share with other mammals[170].

Doctors also experience the more complex emotions of shame, guilt and embarrassment. In psychology, these are called "moral emotions". These are "negatively valenced" emotions,

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[167]   Christensen et al. 1992 – see note 51: page 430.

[168]   While these conditions are linked to different emotions, both basic and complex emotions, they are not emotions themselves. For a discussion of this, see Power MJ. Tarsia M. Basic and complex emotions in depression and anxiety. 2007 *Clinical Psychology and Psychotherapy*, volume 14, pages 19-31.

[169]   Ekman P. An argument for basic emotions. 1992 *Cognition & Emotion,* volume 6(3/4), pages 169-200.

[170]   Panksepp J. Affective neuroscience of the emotional BrainMind: evolutionary perspectives and implications for understanding depression. 2010 *Dialogues in clinical neuroscience*, volume 12(4), pages 533-545.

which are intrinsically aversive so people seek to avoid them. The four moral emotions[171] are said to "provide the motivational force – the power and energy – to do good and to avoid doing bad.[172]" They are also described as "self-conscious emotions", which are cognitively complex. They require, among other things, self-awareness, the knowledge of social rules against which the nature and moral quality of behaviour will be judged, and the capacity to reflect and self-evaluate one's own actions, thoughts and behaviours against these rules. [173] The role of moral emotions appears to be a self-and social regulatory one:

> Put simply, society tells us what kind of person we should be; we internalize these beliefs in the form of actual and ideal self representation; and self-conscious emotions motivate behavioural action towards the goals embodied in these self representations. By reinforcing prosocial behaviours – encouraging us to act in ways that promote social acceptance – self conscious emotions facilitate interpersonal reciprocity, a social arrangement that is highly beneficial in the long term.[174]

Self-conscious emotions can also be relational – that is involving Self in relation to others. Empathy and humiliation are both relational emotions[175]. Humiliation is a frequently identified emotion in medical training and in processes that deal with preventable patient harm in practice, as well as being "endemic in *power-over cultures*"[176] like medicine. Shame is strongly implicated in decreased empathy,[177] and can be a result of deep or long

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[171]   Pride, the fourth so-called moral emotion is said to be, in contrast, a "positively valenced" moral emotion.

[172]   Tangney JP. Stuewing J. Mashek DJ. Moral emotions and moral behavior. 2007 *Annual Review of Psychology,* volume 58, pages 345-372.

[173]   Tracy JL. Robins RW. The Self in Self-conscious emotions – a cognitive appraisal approach. Chapter 1 in Tracy JL. Robins RW. Tangney JP. (editors) *The Self-Conscious Emotions: theory and research.* 2013 Guilford Publications New York (USA): pages 3-20.

[174]   Tracy JL. Robins RW. Putting the self into Self-Conscious emotions: A Theoretical Model. 2004 *Psychological Inquiry*, volume 15(2), pages 103-125: at page 107.

[175]   Relational cultural theory considers that shame and humiliation are both components of power relationships, which will be discussed further below. Hartling LM. Rosen W. Walker M. Jordan JV. *Shame and humiliation: from isolation to relational transformation.* Work in progress No. 88. 2000 Wellesley Centers for Women, Wellesley (Massachusetts).

[176]   Hartling et al. 2000 – see note 175: page 9.

[177]   Research indicates that guilt has a synergistic effect on empathy, while shame interferes with an empathic response. Tangney JP. Dearing RL. *Shame and Guilt.* 2002 The Guilford Press, New York: Moral Affect: the Good, the Bad and the Ugly, pages 81-89.

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term humiliation, when some of the ridicule often associated with humiliation is accepted and turned in on the Self.[178]

2.   Shame, Guilt and Humiliation

Humiliation, guilt and shame are three emotions which have variable effects on the identification of and action on preventable patient harm. In ordinary parlance, sometimes these words are used interchangeably, but there are important differences in their nature and consequences, so far as preventable patient harm is concerned. Psychology researchers argue that they leave different legacies for the person who experiences these emotions. [179] While all are identified as "moral emotions", not all are positive in their effect on the desired outcome of behaviour, nor on the long-term mental health of the person who feels them.[180]

The different focus of shame and guilt was first posited by the psychoanalyst Helen Block Lewis in 1971,[181] and has subsequently been substantiated in many other studies[182]. Tangney and Dearing177 conclude that the distinguishing feature between shame and guilt is that the person who feels shame is "impaired by global devaluation"[183] of their self-identity. The experience of shame produces powerful negative self-judgments that they are small, worthless and powerless. Shame produces a desire to hide, escape or strike back. In fact, Kaufman and Raphael conclude that:

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[178]   Klein DC. The Humiliation Dynamic: An Overview. 1991 *The Journal of Primary Prevention*, volume 12(2), pages 93-121: at page 117.

[179]   The theoretical study of shame and guilt includes those who do not consider that there is such large differences between these emotions. See eg, Harris N. Reassessing the dimensionality of the moral emotions. 2003 *British Journal of Psychology*, volume 94, pages 457-473. See also Braithwaite J. *Crime, shame and reintegration.* 1989 Cambridge University Press, Cambridge (UK).

[180]   Tangney et al. 2002 – at note 177: see Chapter 8 – The Bottom Line – Moral Emotions and Moral Behaviour, pages 130-138. See also Tangney et al 2007 – see note 172: Shame and Guilt are not equally "moral" emotions at pages 349-354.

[181]   Lewis HB. *Shame and Guilt in Neurosis*. 1971 International Universities Press, New York. Of particular assistance is Table 1, page 88.

[182]   A significant number of these studies are listed in Tangney et al. 2002 – at note 177: at page 20-21. See also Lewis M. *Shame – the exposed self.* 1995 The Free Press, New York: Self Thoughts and Shame, pages 59 and following. For his diagrammatic explanation of the relationship between shame, guilt, pride and hubris, see pages 64 and following.

[183]   Tangney et al. 2002 – at note 177: Table 2.1, page 25.

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Shame is the most disturbing experience individuals ever have about themselves; no other emotion feels more deeply disturbing because in the moment of shame the self feels wounded from within. The disturbance produced by shame affects not only self-esteem but also the development of identity and the pursuit of intimacy.[184]

This compares with guilt, where the focus of the emotion is on the action done, rather than on the person's self-perception or identity. The feelings generated by guilt are generally tension, remorse and regret for the action, and the motivation afterwards to "confess, apologize and repair" what the action caused[185]. Another important difference is that because shame involves "critical, painful scrutiny of the self as a whole"[186], it focuses the person's attention on their own feelings and reduces their attention to the feelings of others. In contrast, guilt is claimed to work positively on empathy through encouraging perspective taking[187], which in turn focuses the attention on addressing the needs of the other. Enhancing empathy is an important action in the doctor patient relationship, as empathic care benefits both patients[188] and doctors[189].

Negative emotions cause psychological pain, but the intra-psychic pain of shame is generally perceived as much worse that generated by guilt alone, because shame impacts on someone's identity, their sense of Self[190]. Guilt on the other hand says that person is a good person who has done a bad thing. Guilt and shame are both emotions which society seeks

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[184]   Kaufman G. Raphael L. *Dynamics of Power: Fighting Shame and Building Self-Esteem*. Revised 2nd edition 1991 Schenkman Books, Rochester (Vermont USA): page xiii.

[185]   Tangney et al. 2002 – at note 177: Table 2.1, page 25.

[186]   Leith KP. Baumeister RF. Empathy, shame. guilt and narratives of interpersonal conflicts: Guilt-prone people are better at perspective taking. 1998 *Journal of Personality*, February, volume 66(1), pages 1-37: at page 3.

[187]   Leith et al 1998 - see note 186.

[188]   See eg, Rakel D. Barrett B. Zhang Z. Hoeft T. Chewning B. Marchahand L. Scheder J. Perception of empathy in the therapeutic encounter: effects on the common cold. 2011 *Patient Education and Counselling*, December, volume 85(3), pages 390-397, which showed that patients who received more empathic care recovered faster. For hypotheses on why patients get better faster and more often with empathic care, see Decety J. Fotopoulou A. Why empathy has a beneficial impact on others in medicine: unifying theories. 2015 *Frontiers in behavioral neuroscience*, January, volume 8, article 457, pages 1-11.

[189]   Gleichgerrcht E. Decety J. Empathy in clinical practice: How individual dispositions, gender and experience moderate empathic concern, burnout, and emotional distress in physicians. 2013 *LPOS One*, April, volume 8(4) e61526. Available free at http://dx.doi.org/10.1371/journal.pone.0061526 .

[190]   Tangney et al. 2007 – see note 172: at page 349.

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to engender to impact favourably on behavioural compliance with norms and values[191].
However, shame-generating actions are less likely to encourage someone to learn from
their mistakes and to act to prevent any future mistake or consequent harm. Tangney and
Dearing go further and say shame "can lead to a profound sense of hopelessness and
despair". They confirm the finding in their own and other research of an association
between the experience of shame and suicide or suicidal ideation, and shame proneness and
depression.[192] Perhaps most importantly for the prevention of patient harm and medical
errors, shame is "silencing and disempowering"[193]. Despite the widely-held view that
shame helps people to avoid doing wrong or to change their behaviour, there is little
evidence to support this view and much which shows that shame is both debilitating and
threatening to identity[194], particularly where the shame-inducing act involves public
humiliation.[195]

Humiliation is generally felt when "one is ridiculed, scorned, held in contempt, or
otherwise disparaged for what one *is* rather than what one *does*"[196] It can be seen as an
undeserved impingement on the person's human dignity[197], an imputation of inferiority in
the Self, and almost inevitably involves the exercise of "power over" the person who is
humiliated. Leask defines humiliation as "a demonstrative exercise of power against one or
more persons, which consistently involves a number of elements: stripping of status;
rejection or exclusion; unpredictability or arbitrariness; and a personal sense of injustice,

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[191] Health promotion programs, using negative, shaming images of fat people to encourage weight loss is an example. Parents expressing disappointment at their child's negative behaviour when they are said to *be* bad, or to *behave* badly, are using shame or guilt to reinforce chosen behaviours.

[192] Tangney et al. 2002 – at note 177: pages 136-137.

[193] Hartling 2000 - see note 175: page 12.

[194] Tangney et al. 2002 – at note 177: pages 126.

[195] The difference between Braithwaite's concept of re-integrative shaming in the criminal context is that it involves shame within a respectful, relational treatment of an offender, and it may be that it is therefore closer to Tangney and Dearing's concept of guilt.

[196] Klein DC. 1991 – see note 178: page 117.

[197] Bourdieu made a similar analysis of an insult, which he said "sullies both the picture of himself that the individual intends to project and that which he imagines to be his." Bourdieu P. The sentiment of honor in the Kabyle Society. Chapter in Peristany JG. (editor). *Honor and shame: the values of Mediterranean society*. 1965, Weidenfeld and Nicolson, London, pages 191-242: at page 211.

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matched by the lack of any remedy for the injustice suffered"[198]. Where humiliation occurs in a public forum, it is sometimes seen as "being disgraced", which can have a profound effect beyond the Self, through damage to reputation[199]. This speaks to the notion of "spoiled identity", discussed in the work of Erving Goffman, where the person is "thus reduced in our minds from a whole and usual person to a tainted, discounted one"[200].

Humiliation involves a strong feeling of "being wronged", compared to the feeling of shame, which involves "being wrong" when measured against one's own internal norms or values or those of others. Hartling and Luchetta conclude that:

> Theorists have suggested that shame can serve an appropriate adaptive function by inhibiting aggression or protecting an individual from unnecessary personal exposure. In contrast, humiliation has not been identified as serving an adaptive function.[201]

In Lazare's research on humiliation in medicine[202], doctors and patients describe five characteristics of the experience of humiliation:

- Visual exposure (feeling blemished, exposed or stigmatized);
- Feeling reduced in size (feeling belittled, put down or humbled;
- Being found deficient (feeling degraded, dishonoured or devalued);
- Being attacked (experiencing ridicule, scorn or insult); and
- An avoidant response (wanting to hide one's face or sink into the ground).

While some of these feelings are associated with shame, humiliation differs from shame in that "people believe they deserve their shame; they do not believe they deserve their humiliation".[203] Shame can be generated by the same actions, when the humiliated person feel that the humiliation may have some underlying truth. However, humiliation can exist

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[198]   Leask P. Losing trust in the world: Humiliation and its consequences. 2013 *Psychodynamic Practice,* volume 19(2), pages 129-142: at page 131.

[199]   Burton N. *Heaven and hell – the psychology of the emotions*. 2015 Acheron Press, Oxford: page 54.

[200]   Goffman E. *Stigma – Notes on the Management of Spoiled Identity*. 1963 Touchstone Books, New York: page 12.

[201]   Hartling LM. Luchetta T. Humiliation: Assessing the impact of derision degradation and debasement. 1999 *Journal of Primary Prevention*, volume 19(4), pages 259-278: at page 263.

[202]   Lazare A. Shame and humiliation in the medical encounter. 1987 *Archives of Internal Medicine*, September, volume 147, pages 1653-1658.

[203]   Klein 1991 – see note 178: page 117.

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without giving rise to shame, for example, when the person internally rejects the slur made against them or recognises the humiliation as unjust. This alternative leaves a profound sense of unfairness or injustice, rather than shame, and this can also result in short and long term negative effects.[204]

Humiliation also occurs typically within "relationships of unequal power, where the humiliator has power over the victim". It generally involves three roles: humiliator, victim and witness. All role actors are psychologically affected by the act of humiliation:

> While a humiliator may be emboldened by feelings of power, a victim of humiliation will feel degraded, confused, powerless, paralyzed, ostracized, violated or assaulted. Witnesses of humiliating events may escape being cast as the target, but they may develop a fear of humiliation that influences their behaviour to an equal or greater degree as those who have been the victims of humiliation. Regardless of one's role in an interaction, fear of humiliation can have a formidable influence on an individual's behaviour.[205]

Resistance to humiliation can occur where the humiliation relates to something to which the victim considers they hold a higher obligation. For example, in the case of political dissidence[206], people may be subject to humiliation, but see it simply as part of the political perfidy they are opposing. They also see the lack of fairness and absence of a right of redress as symptoms of the injustice they are standing against[207]. A medical context analogy might occur when someone informs on a colleague because of concerns about their behaviour or performance which creates a high risk to patients. If the informant is ostracised by peers or subject to other forms of ritual humiliation, then they may see their role as an informant as patient-focussed resistance to an unsafe medical culture[208].

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[204] Miller DT. Disrespect and the experience of injustice. 2001 *Annual Review of Psychology*, volume 52: pages 527-553: pages 532-535 especially.

[205] Hartling LM. et al. 1999 – see note 201: at pages 261-262.

[206] Leask describes this as where someone's activities "demonstrate that they do not accept or share the norms and values of those in power". He goes on to argue that "resisters see their punishment and exclusion as predictable consequences of the power struggle they are involved in. They see themselves as temporarily defeated, not as victims of humiliation". Leask 2013 – see note 198: at page 134.

[207] Leask 2013 – see note 198: Humiliation and resistance at pages 134-135.

[208] The role and implications for medical whistle-blowers is discussed in Chapter 6 below.

When a person is humiliated in a personal, pedagogical or other trust relationship, which would normally include support and where there is a significant imbalance of power physically, emotionally or socially[209], the consequences of humiliation can be significant. Examples of these relationships in the medical professional context include the relationship of teacher/student or supervisor/trainee. In these circumstances, the impact of the sense of injustice or shame can have serious and negative emotional and relational consequences for the student or trainee[210]. The sense of injustice arising from the humiliation normally gives rise to feelings of anger, indignation, disappointment, surprise, physical symptoms of arousal and threat, helplessness, depression and envy[211], and is very destructive of relationships[212].

In either case, whether there is resistance or not, an act of humiliation produces profound feelings of vulnerability and powerlessness. Some of these arise directly from the power relationship which underpins any humiliation dynamic. Even when people resist the criticism of Self in the humiliation, they can still be strongly adversely affected at a practical level, where the person who humiliated them continues to have power over them. If the victim asserts in any way their resistance or rejection of the humiliation, the humiliator can see this as a threat to their power and redouble their efforts. It can result in an on-going pattern of humiliation, as the person with the "power over" seeks to consolidate that power. This pattern is likely to result in a long-term trauma response in the victim. Initially, "the likely consequences of humiliation are a sense of permanent loss, and feelings of impotence, frustrated rage, despair and a 'foul thirst for revenge'"[213]. However, over time, when humiliation is repeated or observed being done to others, victims tend to pass through "different sets of responses, from a sense of bewildered helplessness to rage

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[209]   Leask 2013 – see note 198: at page 135.

[210]   Frank E. Carrera JS. Stratton T. Bickel J. Nora LM. Experiences of belittlement and harassment and their correlates among medical students in the United States: longitudinal study. 2006 *British Medical Journal*, 30 September, volume 333(7570,) page 682: doi: https://doi.org/10.1136/bmj.38924.722037.7C . This study showed that belittlement and harassment, when significant, contributes to long term serious psychological correlates.

[211]   Mikula G. Schere KR. Athenstaedt U. The role of injustice in the elicitation of differential emotional relationships. 1998 *Personality and Social Psychology Bulletin*, July, volume 24(7), pages 769-783.

[212]   Mikula et al 1998 – see note 211: page 780.

[213]   Leask 2013 – see note 198: at page 131.

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and then from there to revolt, resistance or submission, which may also involve despair and self-destruction."[214]

Humiliation does not appear to need to be repeatedly endured or witnessed to cause harm. It has been said that the first act of humiliation creates a breach of trust, a loss of hope and a residue of fear that remains forever[215]. Because humiliation is a form of trauma to Self, inflicted by another, and often observed or reported on by others, it can also have a profound impact on a much broader group of people. Fear of humiliation is said to drive many aspects of human behaviour.

> …[O]ne doesn't have to be an actual victim of humiliation to develop the desire to avoid it. Merely participating in or observing someone else's humiliation is enough. … The fear of humiliation appears to be one of the most powerful motivators of individual and collective human behavior. So powerful, indeed, that people kill themselves to escape humiliation and others, even against their deeply held principles, go to war to kill other human beings rather than run the risk of being publicly humiliated by being labelled "coward" or "traitor".

When any act of humiliation occurs in front of others, and they feel impotent to defend the person who is subjected to humiliation for fear of the consequences for themselves, their sense of trust and fairness and their belief in their own courage and faith in themselves may also be permanently harmed. Inaction produces a strong cocktail of reflected humiliation and shame. For example, where a medical student sees a senior teaching doctor humiliating another student, in front of students, patients and other doctors, for not knowing something or making an error, all those present can be marked by the humiliation. These complex individual and group psychological mechanisms are why the effects of humiliation can be so profound.

Shame and humiliation usually give rise to anger, either directed outward or inward. Inwardly directed, "humiliated fury" can result in depression and despair. Outwardly directed, humiliation can lead to vengeful acts or unkind or cruel behaviours that contribute

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[214] Leask 2013 – see note 198: at page 136.

[215] Jean Améry in his book about his torture and humiliation by the Gestapo states that it is the first act of humiliation which breaches one's trust in the world, and that when this happens "a part of our life ends and it can never be revived." Amery J. *At the Mind's Limits: Contemplations by a survivor on Auschwitz and its realities*. Translated by Rosenfeld S. Rosenfeld SP. 1980 Indiana University Press, Bloomington (Indiana, USA): page 28.

to cycles of violence at multiple levels. Another consequence of humiliation is a protective closing off from the world both physically and psychologically, and the development of a protective shell to manage what goes in and out. Such self-protective mechanisms can play havoc with the development and maintenance of empathy and establish patterns of distancing and closing off from others, so that all relationships are harder to establish and maintain. Some proponents of relational cultural theory see humiliation as a relational violation, which involves being made to feel unworthy of connection.[216]

3.   Error and patient harm as shame and humiliation

Where a medical student or doctor makes a mistake or harms a patient, their emotions can include fear, shame and humiliation. Those who witness the shaming of a colleague or even hear about it, will often also suffer these same emotions. Witnesses and participants are each likely to feel anxiety in the long term. All these emotions have a negative impact on patient safety. As discussed above, guilt unmarred by shame can lead to other-focussed corrective action and to enhanced empathy.[217] However, it is arguable that the acts of making a mistake or causing harm to a patient are intrinsically shameful and humiliating to the Doctor Identity.

Shame and humiliation were traditionally identified as ways of reinforcing pro-social behaviour. Humiliation was seen as useful, because of its ability to affect the behaviours of those who witness rather than experience it directly, because of the universal human fear of humiliation. Shame and humiliation, particularly around making mistakes, harming a patient or even identifying the mistakes of a more senior doctor often form part of medical education and training, as discussed in Chapter 5 below. Most of this occurs in a strongly hierarchical institutional setting, where the student or trainees progress depends on the grace and favour of those higher up the hierarchy. Its role in socialisation and professionalization can be seen through the lens of establishing dominance and in forcing conformity:

> One's degradation is shared by others of equivalent status. Moreover, the aim of the experience, as everyone is aware at some level or another, is to help one become an acceptable equal of those doing the humiliating. There is light at the end of the

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[216]   Hartling LM et al. 2000 – see note 175: 'The relational dynamics of humiliation' at page 3.

[217]   Tangney et al. 2002 - see note 177: Chapter 5 Moral emotions and interpersonal sensitivity: especially page 87.

tunnel and, if the process goes as planned, everyone involved – including one's humiliators, one's fellow victims, and witnesses – conspire to enable one to survive the ordeal and emerge transformed at the other end.[218]

Unfortunately, the consequences of such shame and humiliation are often damaging to the person, their environment and the systems in which they operate, even where there is a "pro-social" intention, like the "professionalization" of medical students.

Through the lens of cognitive dissonance, discussed above, someone who has been through a ritualised humiliation process may see it as positively linked to their status, as something one must endure to become the new status, and so proceed to do it to others.

> Having undergone ritual humiliation and emerged at the other end of the process with a new group identity, the erstwhile victim has found significance, usually lifelong, in the fact of having gained membership within the group of erstwhile humiliators.

As well as running the risk of continuing the pattern of ritual humiliation[219], it also leaves "the lifelong sense of vulnerability to the possibility of further humiliation instilled in those who survive".[220] Lazare concludes that humiliation in medical training can also mean that when the trainees become doctors, they "may be unable to accept criticism or hostility from patients", "may be unable to acknowledge mistakes or apologize", "may have difficulty learning from others" and "may be unable to relax and enjoy other aspects of their lives."[221]

In addition, the priming of the emotional threat mechanism, by experiencing these emotions directly or by witnessing someone else suffering, can cause inattentional blindness and denial into the future. Unaddressed and internalised, the psychological consequences associated with shame and humiliation result in depression, anxiety and burn-out for the doctor. Unaddressed and externalised, the loss of empathy and embodied anger often associated with these experiences can result in poor quality care. Shame or humiliation

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[218]   Klein DC. 1991 – see note 178: at page 103.

[219]   This intergenerational pattern was identified in the recent Royal Australasian College of Surgeons' survey, which revealed long term abuse and humiliation of surgical trainees, as discussed in Chapter 6. Such patterns of behaviour have a negative effect not only on the doctor concerned, but on another doctor (or indeed any other clinician like a nurse or other member of a treating team).

[220]   Klein DC. 1991 – see note 178: at page 103.

[221]   Lazare A. 1987 – see note 202: at page 1656.

because of error or preventable patient harm, can be produced in medical education, professional training, in peer review or in the complaint and litigation process. Wherever it occurs, there is a strong risk that these psychological experiences will compromise patient safety and the well-being of doctors and patients long after the triggering events are forgotten[222].

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[222] Actions which create these emotional responses act as a dysfunctional form of training about how to deal with mistakes. That is, if you make a mistake, hide it to avoid punishment and humiliation. This form of negative training does not provide either corrective behaviour or guidance about why the mistake happened in the first place and what could have been done to avoid repetition. Because the response is likely to be stored in implicit memory, it may well be triggered as a first response and be passed on to those who observe the person as trainees.

Chapter 4: Patient harm and vulnerabilities of the Doctor Identity

A. *Introduction*

Chapter 3 sets out the normal human psychological and neural responses that can occur when a threat to identity occurs. The human brain is likely to avoid attention to information that, if brought to conscious awareness, may crystallise into an identity threat. Methods of avoidance outside of conscious awareness include inattentional blindness, and the exclusion or redefinition of information outside of attention as not relevant.

If this avoidance is unsuccessful, then the brain can use various techniques like cognitive biases to interpret information in an identity-protective manner. These are intended to resolve cognitive dissonance because information that is a threat to identity is the psychological equivalent to a mortal threat to the body. It gives rise to high levels of anxiety and an overwhelming psychological need for resolution to protect identity. It is therefore not surprising that the brain prefers an identity-protective view of information that has come to its attention.

Once there is no further psychological way of avoiding awareness of a threat to identity, a range of strong emotions are triggered, depending upon the circumstances. These include fear, anxiety, guilt, embarrassment, shame and humiliation. This chapter looks specifically at how these normal human responses apply to the threat to the Doctor Identity that comes from medical error and patient harm. It posits that the "error-free idealised doctor" that walks around in the minds of most doctors in a "Perfect Performance" schema, thwarts its own idealised achievement in the real world of medicine. It looks at the historical roots of this schema and how other professions have sought to address a similar mistaken denial of human performance limitations. It seeks to support the first hypothesis of the thesis:

> The occurrence of patient harm and medical error can be perceived psychologically by a doctor as a fundamental threat to his or her identity (Hypothesis 1)

The chapter then seeks to provide support for the second hypothesis of the thesis:

A serious threat to identity causes a range of psychological defences, often rooted in the biological responses of the brain to threats to existence, and these defences can make it hard for a doctor to recognise, identify or accept the risk of patient harm; (Hypothesis 2)

It looks at denial and re-characterisation of patient harm as a primary identity defence strategy. Sometimes called the "contested" nature of medical error and patient harm, the issue is considered through the Harvard Medical Practice Studies Litigation Sub-study, which provides a unique window into the ways doctors can differentially perceive the same fact situation around preventable patient harm. This chapter also notes how the voice of the patient often remains "out of scope" when looking at preventable patient harm. When it is brought in through complaints or litigation, the voice of the patient or family is also perceived as a direct threat to the Doctor Identity, with significant adverse relational implications.

The chapter then considers the maladaptive but predictable responses created in the lives of doctors, by the emotions associated with medical error and patient harm upon which its third hypothesis is based:

Elements of the Doctor Identity deny ordinary human psychological responses and physical limitations, and thus promote unrealistic self or group perceptions. This creates risks to both doctors and patients. Many of these risks may be avoidable through modifying these perceptions and developing more realistic self-and professional schemas. (Hypothesis 3)

The common maladaptive responses to the threat to identity frequently impact negatively on the doctor's well-being and long term mental health, on their relationship with other health professionals and medical peers, on their relationship with patients and the wellbeing of their patients. This chapter closes with a case study of the effects that a distorted understanding of what is to be both a human being and a doctor can have on doctors and patients, through an analysis of fatigue in the lives of doctors and student and trainee doctors.

B.   The Doctor Identity, error and patient harm

1.   Why change has been limited – the first hypothesis

As shown in Chapter 1, the high incidence of medical error and patient harm has been
known about for more than half a century and significant efforts have been expended over
the past two decades to try and address the problem. However, the achievements of these
efforts have been modest at best. Further new strategies need to be considered to hasten
action to reduce the unacceptable human toll on patients and doctors[1]. Despite more recent
explicit discussion about medical errors as an unavoidable consequence of being human,
the error-free performance medical Schema remains embedded in the hidden curriculum in
medical education and training detailed in Chapter 5, and in many of the implicit values and
practices in health care and in the means for consolidation and maintenance of the Doctor
Identity, set out in Chapter 6. Medical error and patient harm continue to be perceived
often as a fundamental threat to the good Doctor Identity.

This works actively against the explicit efforts that have been made to create a medical
culture that recognises and responds actively to the ubiquity of medical error.
Understanding and accepting ordinary human limitations should allow safer systems of
working to be developed. For example, doctors would be able to admit to themselves and
tell others when they are tired, distressed or distracted. Once the existence of normal
human limitations is acknowledged, this should also allow employment of strategies and
actions to reduce the risk of patient harm from errors.

However, the traditional medical view of mistakes as a moral failing is irreconcilable with
the more modern understanding that errors are a normal and relatively predictable part of
human behaviour. While part of the public and professional discourse around medical error
recognises the occurrence of error in medicine and the need to develop better, safer health
care systems and practices to support excellence within an error-prone environment[2], there

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[1]   The patient toll is evident from the data in Chapter 1. The following book provides an excellent
    analysis of how doctors, nurses and other health professionals often become the second victim, when
    preventable patient harm occurs Dekker S. *Second Victim – Error, Guilt, Trauma and Resilience*
    2013 CRC Press, Boca Raton (Florida USA).

[2]   The 1999 US publication of the report *To Err is Human* was a significant milestone in that
    recognition internationally, though in Australia, the 1995 publication of the Quality in Australian

are strong legacies from the perfect performance paradigm that confuse and oppose this message. For example, an oft-quoted precept in the new paradigm is that preventable patient harm occurs because "good people work in flawed systems"[3]. For the Doctor Identity, embedded so long in a perfect performance paradigm, this can readily be interpreted as meaning that those who possess moral and professional virtue (good people) don't make mistakes, rather than that healthcare error and patient harm are the products of something outside them (the flawed system).

This causes two dissonance issues for the Doctor Identity, in relation to the identification of errors and the prevention of harm to patients. First, being a good person and a good doctor is equated with never *personally* causing harm or making mistakes which can lead to harm. While it is desirable that doctors strive for excellence, an expectation of perfect performance is not achievable. To rely on perfect performance as a patient safety strategy means that more reliable "safety nets" for detecting errors before harm occurs are not generally developed or put in place. After all, the argument goes, why put in a safety net if there is no problem? The partnering of perfect performance with the Doctor Identity also perpetuates a source of cognitive dissonance for doctors. Throughout their training and professional practice, doctors experience and observe mistakes and preventable patient harm on a regular basis, even among the best doctors. At the same time, from their early days as medical students, they see behaviour modelled by their supervisors, colleagues and peers, which does not admit vulnerability to error or responsibility for medically caused harm. As students and trainees, doctors learn not to bring errors and harm to anyone's attention. If they observe errors consciously, they learn to see them not as mistakes or preventable patient harm where doctors have agency, but as disconnected "adverse events" caused by "the system". They learn and see enacted daily many of the denial and dissonance resolution strategies discussed in Chapter 3, because the other cultural understanding that is absorbed is that to be a good doctor means to "First, do no harm.".

Health Care study, commissioned as part of the Review of Professional Indemnity Arrangements for Health Care Professionals and the Review's Final Report in 1996 had already brought the issue to national attention in Australia. Kohn LT. Corrigan JM. Donaldson M. (editors). *To err is human: building a safer health system.* Committee on Quality of Healthcare in America. Institute of Medicine. 1999 National Academy Press, Washington DC.

[3]   See Chapter 2 above, section D, 1.

As discussed in Chapter 2, the second consequence of this tenet is that the disembodied "system" becomes the source of harm, and this exists outside of the desired identities of "good doctor" and "good person". The sentiment behind the tenet could be expressed more fully as "Even good people make mistakes, but barriers can be put in place to reduce the risk of patient harm arising from these mistakes". Instead the "Good people in flawed systems" meme[4] is absorbed into the healthcare environment where it provides a convenient, seamless resolution to the cognitive dissonance of the doctor's lived experience of ubiquitous medical error and patient harm. The resolution comes as a rationalisation that "Error and harm exist, but it is not my responsibility –it is the 'system'".

The meme thus reinforces the unrealistic ideal of harm-free medical practice, as proof that someone is a "good" doctor or virtuous person. It inextricably links perfect performance with moral virtue, so medical error and causation of harm to a patient become not just a recognised part of the human condition shared by all people, including doctors. Instead, it becomes a sign of moral and professional failure – a potential cause of fear, shame and humiliation. The meme also reduces the agency a doctor may feel to create a safer process or to change practice because its seen as a "system problem". It is not, therefore, the doctor's responsibility to identify or fix the problem.

2.   "Perfect performance" – ideal and curse

This interpretation falls on fertile psychological and cultural ground, because of a doctor's traditional ethical duties to a patient. At the core of the professional medical expectations sit the ethical concepts of beneficence and non-malfeasance: to act selflessly in the interest of a patient and to do no harm to patients. The societal expectation that doctors will put their patient's interest first recognises the inherent power differential between doctors and patients and the potential for the power of a doctor to be misused. The governance of this power underpins many of the ethical obligations required of doctors[5]. These obligations

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[4]   'Meme' is used here in its more traditional sense of an element of a culture or system of behaviour passed from one individual to another by imitation or other non-genetic means, rather than its more colloquial internet-based meaning. http://www.oxforddictionaries.com/definition/english/meme

[5]   See eg, Brody H. *The Healer's Power,* 1992 Yale University Press New Haven (USA).

also shape and support the Doctor Identity shared by doctors and by society as a whole, as discussed in Chapter 6. One of medicine's oldest and most cherished cultural stories is embodied in the legacy (and legend) of Hippocrates:

> …the meaning of the Hippocratic Oath and the reason for its enduring value is this highly personal quality which reflects the basic concepts of devotion to people and a desire to serve them, … In his statement, Hippocrates makes everything else emanate therefrom: the physician's relation with the patient is sacrosanct.[6]

The community expects that doctors will show high standards of selfless conduct in their relationships with patients. These expectations underpin a framework of trust, in which patients and their families can feel safe in the care of a doctor when they are vulnerable. The occurrence of preventable patient harm, when it is brought to the attention of a patient or their family, can often thwart these expectations and cause the doctor and patient relationship to break down.

In 1992 Christensen and others described the difficulties doctors have in assimilating a recognition of the ubiquity of medical error into their understanding of what it is to be a doctor, because of the training and professional socialisation processes of medicine:

> These processes that motivate the physician to maintain excellent standards of practice do not incorporate the notion of fallibility, in contrast to the premises of the science of medicine, which are founded on probability and error. The absence of fallibility as a category in physicians' concepts of their profession may be a product of the lack of serious discussion of mistakes in medical training, in the medical literature and in the conferences, grand rounds and symposia through which physicians are continuously socialized into the way that medicine works.[7]

The impact this has on doctors when an error occurs, which cannot be denied or minimised, can be profound, particularly if a patient dies unexpectedly.[8] As Hilfiker said in a 1982 article[9], doctors "work in an impossible situation", where they know that every day they make "myriad decisions … [which] have the potential for drastic consequences if it is not

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6 Bulger RJ. (editor). *In search of the modern Hippocrates*. 1987 University of Iowa Press, Iowa City: page 11.

7 Christensen JF. Levinson W. Dunn PM. Heart of Darkness – the impact of perceived mistakes on physicians. 1992 *Journal of General Internal Medicine,* July/August, volume 7, pages 424-431.

8 Christensen et al. 1992 – see note 7; Millman M. *The Unkindest Cut – Life in the Backrooms of Medicine*. 1977 Morrow Quill Paperbacks, New York

9 Hilfiker D. Sounding Board – Facing our mistakes. 1984 *New England Journal of Medicine*. 12 January, volume 310(2), pages 119-122.

determined properly". He goes onto argue that it is virtually inevitable that a mistake causing harm to a patient will occur and then:

> painfully, almost unbelievably, we physicians are even less prepared to deal with our mistakes than the average lay person is. The climate of medical school and residency training, for instance, makes it nearly impossible to confront the emotional consequences of mistakes. … The medical profession simply seems to have no place for its mistakes. There is no permission given to talk about errors, no way of venting emotional responses. Indeed, one would almost think that mistakes are in the same category as sins: it is permissible to talk about them only when they happen to other people.[10]

Sir Donald Irvine, past President of the UK General Medical Council, sees the public reputation of what it is to be a doctor, discussed in detail in Chapter 6, as a driver to hide, deny or explain away preventable harm. He describes the tension inherent between the fallibility and uncertainty doctors experience all the time, and the perception that they and many patients have that they should be certain.[11]

The common university training of doctors internationally[12] has replicated these attitudes throughout the world because of the common training pathways used. In relation to the US system, Professor Lucian Leape said in 1999:

> Physicians are socialized in medical school and residency to strive for error-free practice. There is a powerful emphasis on perfection, both in diagnosis and treatment. In everyday hospital practice, the message is equally clear: mistakes are unacceptable. Physicians are expected to function without error, an expectation that physicians translate into the need to be infallible. One result is that physicians … come to view an error as a failure of character. … Role models in medical education reinforce the concept of infallibility. The young physician's teachers are largely specialists, experts in their fields, and authorities. Authorities are not supposed to err. It has been suggested that this need to be infallible creates a strong pressure to intellectual dishonesty, to cover up mistakes rather than to admit them.[13]

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[10]   Hilfiker 1984 – see note 9: at page 121.

[11]   Irvine D. *The Doctors' Tale – Professionalism and Public Trust*. 2003 Radcliffe Medical Press, Abingdon (UK): page 25.

[12]   The World Federation of Medical Education has established international standards for all medical education since 2003, so this common approach has been expanding from the Anglo-American medical education systems, which shared common features for very much longer.

[13]   Leape LL. Error in medicine. Chapter 2 in Rosenthal MM. Mulcahy L. Lloyd-Bostock S. *Medical mishaps – pieces of the puzzle*. 1999, Open University Press, Buckingham (UK): page 22.

The link between elements of the Doctor Identity and medical error and harm has been recognised for a long time. In John Gregory's 1770 Lecture One on the duties and qualifications of a physician, he ends with an important reflection on medical error.

> I may reckon among the moral duties incumbent on a physician, that candour which makes him open to conviction, and ready to acknowledge and rectify his mistakes. An obstinate adherence to an unsuccessful method of treating a disease, must be owing to a high degree of self-conceit, and a belief of the infallibility of a system. This error is the more difficult to cure, as it generally proceeds from ignorance. True knowledge and clear discernment may lead one into the extreme of diffidence and humility, but are inconsistent with self-conceit. It sometimes happens, too, that this obstinacy proceeds from a defect in the heart. Such physicians see that they are wrong, but are too proud to acknowledge their error, especially if it is pointed out to them by one of the profession. To this species of pride, a pride incompatible with true dignity and elevation of mind, have the lives of thousands been sacrificed.[14]

However, most doctors are poorly prepared in the apprenticeship parts of their education and training to effectively manage the threat, risk and consequences of preventable patient harm for patients and themselves. Where they see more appropriate behaviour modelled, there is some evidence that they want to aspire to this:

> Many medical students made or observed significant errors. … Some students also experienced considerable uncertainty as to whether an error had occurred and how to prevent future errors. Many errors may not have been disclosed to patients and some students who desired to discuss or disclose errors were apparently discouraged from doing so by senior doctors. Some students criticised senior doctors who attempted to hide errors or avoid responsibility. By contrast, students who witnessed senior doctors take responsibility for errors and candidly disclose errors to patients appeared to recognise the importance of honesty and integrity and said they aspired to these standards.[15]

However, it is apparent from this and other studies discussed in Chapter 5, that this example of good practice is less common than will be needed to transform the cultural heritage that has shaped the "perfect performance" component of the Doctor Identity.

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[14] Gregory J. *Lectures on the Duties and Qualifications of a Physician.* 2nd edition (revised by his son Dr James Gregory) 1803 William Creech & T. Cadell & W. Davies Edinburgh [Access to this historic book was provided through the Royal Australasian College of Physicians History of Medicine Library]: end of Lecture 1, pages 26-27.

[15] Martinez W. Lo B. Medical students' experiences with medical errors: an analysis of medical student essays. 2008 *Medical Education*; volume 42(7) July; pages 733-41: in Abstract.

As mentioned by Gregory in 1770, acknowledgement of the real probability of error requires a degree of humility and self-doubt which is often not strongly associated with medical professionalisation. At a deeper level, as well, experiences or observations of shame or humiliation when errors are uncovered can have a lasting impact on all doctors and produce great anxiety about admitting errors throughout their career. It is therefore less surprising that openness about errors is not well modelled in training, as discussed in Klitzman's study of doctors who have become ill. These doctors commented that:

> "all doctors think they're important," [one of the doctors] said, "critical to the survival of themselves and everyone around them". Such arrogance often abetted poor communication. Frequently, physicians resisted challenges to their authority, feeling they were right and patient wrong. Such pride can prompt doctors to conceptualise successes and failures of treatment in self-affirming ways. At times, doctors overreported successes and downplayed failures, defining the risks and benefits differently than did their patients. …Admitting negative outcomes, despite the promise of modern scientific triumphs, is to confess and confront medicine's limitations. Hence, doctors may frame prognoses and treatments in unrealistic and self-serving ways. [As one doctor said]:
>
>> "Doctors lie to themselves and their patients, because of the limitations of what they're doing. Medicine has made immense progress, but there is a whole lot more to do, and a lot of doctors … just mislead patients."[16]

The consequence of these attitudes can be very significant, when preventable harm occurs, particularly if the doctor has not suggested that there could be any risks or problems prior to treatment and obtaining consent[17]. Equally, if harm has occurred, the problems can be compounded if the doctor acts in a defensive way or the patient or family are unable to find out what happened to cause the unexpected harm.[18]

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[16]   Klitzman R. *When doctors become patients.* 2008 Oxford University Press, New York: pages 109-110.

[17]   In Australia, the failure to disclose risks of treatment to a patient can be treated as a breach of duty of care in a negligence action. *Rogers v Whitaker* (1992) 175 CLR 479, (1992) HCA 58.

[18]   This has been known as a trigger for anger, complaint and litigation for more than two decades. See eg, Lloyd-Bostock S. Mulcahy L. The Social Psychology of making and responding to hospital complaints: An account model of complaint processes. 1994 *Law & Policy*, April, volume 16(2), pages 123-147: the most frequent request in letters of complaint in this study were requests for provision of information. Coventry G. Daly J. Evans M. Lowy C. McMahon M. Roberts G. *The health/medical care injury case study project.* Prepared by the National Centre for Socio-Legal Studies, La Trobe University for Review of Professional Indemnity Arrangements for Health Care Professionals, Commonwealth Department of Health, Housing and Community Services. February 1993 Australian Government Publishing Service (AGPS), Canberra. See also Wu AW. Handling hospital errors: Is disclosure the best defense? 1999 *Annals of Internal Medicine*, volume 131(12), pages 970-972.

The psychological links in the Doctor Identity between perfect performance, not harming a patient and being a "good doctor/person" affect the whole of the communication stream across health care. For example, it can make it difficult for doctors to talk about the risks of various treatments in consultations with a patient. As a way of reassuring patients (and possibly themselves), they can provide an overly optimistic view of what the outcome of a particular treatment may be and minimise the risks. This can lead patients to have an unrealistically positive view of the likely outcomes and to accept the treatment, without understanding the risks they are taking. A consequence of this common scenario is that if either a mistake results in harm or a bad outcome occurs for any reason, then the patient may experience anger or disappointment from their frustrated, and probably false, expectations.

At the same time, the doctor will experience cognitive dissonance between what occurred and his or her expectation of what should have occurred. A doctor's first response is likely to be to seek to resolve this dissonance by denial of either the event or their agency in it. The second level of response is likely to be fear and possibly shame associated with the error or harm. None of these emotional responses is likely to led to effective communication about what went wrong and why. This, in turn, will widen the patient's and/or family's sense of breach of trust. These emotions are also unlikely to lead to the doctor accepting responsibility by apologising or by acting to prevent recurrence. Trauma for both doctor and patient can be significantly increased[19].

3.   When a patient complains

While there is consistent strong evidence that the frequency of litigation and complaint occur in only a small proportion of cases of patient harm[20], doctors remain extremely

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[19]   Vincent CA. Pincus T. Scurr JH. Patients' experience of surgical accidents. 1993 *Quality in Health Care*, volume 2, pages 77-82; Ennis M. Vincent C. The effects of medical accidents and litigation on doctors and patients. 1994 *Journal of Law and Policy*, April, volume 16(2), pages 97-121.

[20]   For most recent data the number of medical indemnity claims across the public hospital and Medical Defence Organisations in Australia was estimated as 4,250 in 2012-13, while the number of adverse events recorded in 2013-14 across public and private hospitals was 546,544. This latter figure is generally accepted as a significant underestimate of all adverse events, but even at that level, the number of medical indemnity claims is less than 0.8% of adverse events recorded on hospital

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fearful of the possibility.[21] Studies of the responses of doctors to complaints and litigation
show that both are perceived as a significant identity threat. A common way of coping with
this is to externalise blame – on the system, on other care providers, on the patient. This
has a profound effect not only on the relationship with the specific complainant and those
providers upon whom blame is placed, but often with other patients. Mulcahy's research
on medical complaints in the 1990s concluded that "the reconstruction of a positive sense
of identity [for a doctor] relies on a deconstruction and undermining of both the
complainant and complaint". She found that doctors generally rebuild their own identity by
diminishing that of the patient, leaving the doctor unable to acknowledge or even hear the
views of the patient about what occurred. She concludes that "while doctors present
themselves as rational scientists they see complainants as putting forward irrational or
illogical accounts while they defended their own work in medical terms, and pay little heed
to the contrasting discourses and concerns expressed by complainants"[22].

When a doctor receives a complaint, it has a powerful emotional impact on the doctor.
Allsop and Mulcahy's research across both general practitioners and hospital doctors
involved in complaints[23] show that most emotions were associated with shame and
humiliation, whether or not the doctor felt the complaint against them was justified. These
included anger related feelings, like irritation (52%), annoyance (37%) and anger (33%);
anxiety related emotions, like worry (42%), concern (38%), distress (32%) and anxiety
(28%); and vulnerability (28%). As one doctor said:

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medical files. In addition, the MDO data covers liability incurred outside of the hospital system as
well, but there is no public data of the frequency of adverse events in medical care delivered outside
of hospital. Data from: Australian Institute of Health and Welfare (AIHW). *Australia's medical
indemnity claims 2012-13.* Safety and Quality of Healthcare Series No. 15vCat No. HSE 149, 2014
AIHW, Canberra: page vii; and AIHW. *Australian Hospitals at a glance 2013-14*: Admitted patient
care, What was the safety and quality of the care, Performance indicator: Adverse events at Table 6
http://www.aihw.gov.au/haag13-14/admitted-patient-care/#t9 .

[21]   See eg, Kapp MB. Legal anxieties and medical mistakes – barriers and pretexts. 1997 *Journal of
General Internal Medicine*, December, volume 12(12), pages 787-788.

[22]   Mulcahy L. *Disputing doctors – to socio-legal dynamics of complaints about health care.* 2003 Open
University Press, Maidenhead (UK): pages 104-105.

[23]   Allsop J. Mulcahy L. Doctors' responses to patient complaints. Chapter 9 in Rosenthal MM.
Mulcahy L. Lloyd-Bostock S. (editors) *Medical Mishaps – pieces of the puzzle.* 1999 Open
University Press, Buckingham (England): pages 124-140 – see especially pages 129-130.

Complaints are very hurtful. One gets emotionally involved because they strike at one's perception of one's self as a doctor.

Denial is often one of the first responses to a complaint and, even where the doctor agrees that the patient has been harmed, the vast majority blame external causes (often including the complainant)[24]. In part because of the psychological need to protect and affirm their sense of identity, almost all doctors continue to believe the complaints are not justified. For example, in Mulcahy and Allsop's research, 85% of the hospital consultants and 96-98% of the general practitioners considered the complaints against them to be unjustified[25]. The conclusion of Mulcahy is that the doctors in these studies "rarely internalized blame for mishaps or grievances".[26] In the case of litigation, the experience of the doctor in a medical negligence action has been described as akin to the bereavement felt with the loss of a close family member[27]. Doctors often do not see that a patient had a right to complain or that the doctor should be held to account. These responses are typical of cognitive dissonance and the desire to protect their identity. They see "complaining as a morally reprehensible activity which had an adverse effect on their ability to care for other, more worthy patients"[28].

Complaints are also seen by doctors as transgressions of the norms of the doctor patient relationship, because they challenge the doctor's assumptions that the patient accepts the doctor's "superior technical knowledge and their moral authority". Allsop and Mulcahy[29] say that "[A] complaint is interpreted as a challenge to expertise and authority which goes to the heart of the doctors' sense of identity". Through this, complaints create a "legitimation crisis", which results in great anxiety for the doctor's sense of self. They

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[24]   Mulcahy 2003 – see note 22: at page 109-111, especially Figure 6.1; see also Allson J. Two sides to every story: complainants' and doctors' perspectives in disputes about medical care in a general practice setting. 1994 *Law and Policy*, April, volume 16(2), pages 149-183, especially pages 171-175.

[25]   Allsop et al 1999 - see note 23: at page 130.

[26]   Mulcahy 2003 – see note 22: at page 110.

[27]   Lavery JP. The physician's reaction to a malpractice suit. 1988 *Obstetrics and Gynecology*, volume 71(1), pages 138-41.

[28]   Mulcahy 2003 – see note 22: at page 106.

[29]   Allsop J. Mulcahy L. Maintaining professional identity: doctors' responses to complaints. 1998 *Sociology of Health & Illness*, volume 20(6), pages 802-824.

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challenge the core of the Doctor Identity. Because a doctor's professional identity and self-identity are often so closely linked through the professionalisation process described in detail in Chapter 5, complaints are a direct threat to the doctor's identity at multiple levels. The strength of response by doctors to complaints relates heavily to this threat. At the core of his or her identity, a doctor is ill-prepared to recognise an error when it occurs in his or her work, particularly if it results in harm to a patient, and is even less prepared when a patient or family member complains. This is despite the overwhelming evidence presented earlier that such incidents are ubiquitous in modern health care and that the voice of patients is being sought more and more in the policy setting and accreditation processes.

4. Lessons from other professions

Through their training and professionalisation and the normative processes doctors experience every day, doctors often come to believe that they are less affected by common human frailties or consequences. This includes their perceptions about the making of errors and the causing of harm to patients. This kind of self-belief is shared with other professional groups, such as pilots, whose heroism in emergencies and very difficult circumstances, is akin to the public face of parts of medicine, as discussed in Chapter 6. However, as Helmreich and Merritt found in their work on pilots, surgeons and anaesthetists, the same cultures that can give rise to these positive attributes can also give rise to what they call "a dark side of professional cultures".

> The elements of self-perception that give professionals the confidence to persevere in the face of great challenges also have negative sequealae. Pride in doing one's job well can lead to flying when fatigued or suffering from a serious head cold. This can result in a crew not fully capable of coping with emergencies. The same pride may make pilots reluctant to admit error, which in turn can keep valuable information about human limitations from the organization … Confidence can turn into arrogance and machismo can lead to a disregard of others' opinions and a failure to consider alternative courses of action. The negative consequences of perceived invulnerability are readily found. An unrealistic view of normal human limitations may lead pilots to disregard standard operating procedures, to proceed into dangerous situations to complete a flight and/or to fail to utilize other crew members as safeguards against mishap.[30]

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[30] Helmreich RL. Merritt AC. *Culture at Work in aviation and medicine: national organizational and professional influences*. 1998 Ashgate Publishing, Aldershot (UK): page 34.

Helmreich and Merritt's first precept for error management is the need to recognise that "In any complex system, human error is inevitable" and the second precept is that "There are limitations on human performance".[31] The training and education of young doctors discussed in Chapter 5 are often inconsistent with these precepts. For example, the "perfect performance" aspiration can create dissonance with the idea that error as an intrinsic characteristic of decision-making in uncertainty. An unrealistic expectation of error-free performance as a core characteristic of what it is to be a good doctor arguably can lead to a cascade of unsafe practices, including an absence of systems to detect problems early. These are likely to be supported by a range of powerful psychological defences.

Trainee doctors can be painfully aware of the occurrence of errors in their practice, as they are learning[32]. However, their experience of shaming and humiliation in training either directly or by observation when someone makes a mistake[33], and their often unsuccessful experiences of trying to come to terms with errors that have caused harm or death to a patient, increase the psychological dissonance they experience around error and patient harm. Research shows that trainees who perceive they have made an error not only experience personal distress and burnout, but they show decreased empathy for patients in future. This research also notes that they have a higher likelihood of another self-perceived error occurring[34], though one possible explanation for this is that they have a greater awareness of the risk and occurrence of error than their peers, rather than that they are more error-prone.

Research into error, stress and team work in doctors and pilots[35] shows that even now, where doctors accept at a theoretical level that errors do occur in medicine, they have a

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[31]   Helmreich et al. 1998 – see note 30: page 141.

[32]   Bosk CL. *Forgive and remember – managing medical failure.* 1979 University of Chicago Press New York: page 3.

[33]   Bosk 1979 – see note 32: page 73.

[34]   West CP. Huschka MM. Novotny PJ. Sloan JA. Kolars JC. Habermann TM. Shanafelt TD. Association of perceived medical errors with resident distress and empathy – a prospective longitudinal study. 2006 *Journal of the American Medical Association*, 6 September, volume 296(9), pages 1071-1078.

[35]   Sexton JB. Thomas RJ. Helmreich RL. Error, stress and teamwork in medicine and aviation: cross sectional surveys. 2000 *British Medical Journal*, 18 March, volume 320, pages 745-749.

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limited psychological integration of the idea that they, themselves, make mistakes[36]. There is some training in undergraduate medical courses about error and patient harm[37]. However, those who are in senior training positions, whose behaviour is more likely to be modelled, were trained and have practiced in an environment that promotes many personal characteristics and beliefs, inimical to developing safer practices in health care.

When doctors become aware of mistakes or harm they have caused to a patient, the negative impact on their well-being has also been linked back to the experiences they had during training:

> The dysphoric emotions of shame, guilt, depression and anxiety triggered by the mistake can be influenced both by perfectionism derived from the physician's family of origin, and by the way doctors are socialized into the profession. Professional standards of excellence are learned and incorporated during medical school and residency training into the physician's internal self-regulation. Once incorporated, standards of professional behaviour may be maintained by such processes as fear of humiliation, fear of litigation, self-expectations of perfection, self-comparison with other physicians, and concerns about external scrutiny by professional oversight bodies.[38]

Such training including physical demands that extend well-beyond normal human limitations provide a poor ground for an understanding of the ubiquity of error in modern health care. They also provide an unpromising seedbed for the development of patient safety strategies which address human fallibility and limitations. The case study on Doctors and Fatigue later in this chapter provides a practical example of the consequences of this.

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[36]   Sexton et al – see note 35: page 747.

[37]   World Health Organisation (WHO). *WHO Patient Safety Curriculum Guide for Medical Schools*. 2009 WHO, Geneva. See also World Health Organisation (WHO). *Patient Safety Curriculum Guide. Multi-professional Edition*. 2011 WHO Geneva.

[38]   Christensen JF. Levinson W. Dunn PM. The heart of darkness – the impact of perceived mistakes on physicians. 1992 *Journal of General Internal Medicine*, volume 7, pages 424-431.

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C.   Risks arising from the Doctor Identity

1.   Denial and redefinition

It is little wonder that doctors develop many defences to resolve the cognitive dissonance they experience, between the ideal of a "good doctor" who makes no errors and causes no harm, and the reality of the ubiquity of error and harm they see around them and, at some level, may be aware of in their own practice, even sub-consciously. These defences are generally modelled for them in their training and every day practice by more experienced clinicians. For example, senior doctors and residents may delineate some errors as merely technical or alternative judgements, to minimise them. Others may say they are not errors at all, simply opportunities to learn.[39]

Clinical uncertainty, discussed in Chapter 3, and clinical pragmatism, such as the imposition of time constraints either because of clinical urgency or a pressured environment, also provide useful tools to resolve this dissonance. The perceived need to retain the confidence of the patient and the doctor's own need to feel confident in themselves and their medical knowledge and skills, also work against a doctor resolving the dissonance by admitting the error and treating as a puzzle to be solved, rather than a moral failing. If the doctor is unable to confront and deal with an error when it happens, denial is likely to be the first option used to resolve the dissonance created by a threat to identity. Rationalisations expressed as "The patient was beyond my help" and "There were unexpected circumstances" provide useful cognitive explanations that do not threaten identity, in much the same way that "It was a system problem" has been recruited to the defence of identity.

When a doctor needs to disclose preventable patient harm to a patient or their family, these kinds of "coping strategies" can exacerbate perceptions of breach of trust. This occurs, for example, when what a patient or family perceives as preventable harm is read down or rationalised by the doctor or hospital.[40] In some cases, there may well be a non-error based

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[39]   Bosk 1979 – see note 32: page 72.

[40]   Fein SP. Seymann GB. Kagaw-Singer M. The many faces of error disclosure: a common set of elements and a definition. 2007 *Journal of the Society of General Internal Medicine*, volume 22, pages 755-761.

explanation for why the results of treatment were not as expected, but if the doctor is anxious about speaking to the patient and therefore acts in a defensive manner, the patient may sense the anxiety. The anxiety then may be perceived as a sign that the doctor is hiding something from the patient or family. If a doctor acts in an arrogant or dismissive manner, or deals with the patient's concerns without empathy, the patient's negative emotional response may make the doctor feel more threatened. There can be very different judgments from the patient's and the doctor's perspectives. For example, a doctor may see an operation as technically successful or as "correct treatment", even where a patient dies, or mistakes were made[41]. Once again, trainees and less experienced doctors see this behaviour modelled and emulate it because they are unsure what else to do.

To challenge this approach and discuss problems directly with patients or their families without "clearance" from relevant doctors or administrators may bring the wrath of senior staff or management onto the vulnerable head of a young doctor. The fear and anxiety suffered by trainees and less experienced doctors, and even very experienced doctors can limit their capacity to reflect on and think about what actually happened. With memory being both malleable and self-protecting as discussed in Chapter 3, it is hardly surprising that the "recollections" of doctors in these situations are coloured and shaped by the path their minds choose to resolve the dissonance

Dissonance and denial also undermine doctors' ability to effectively meet the needs of patients and families immediately after preventable harm has occurred. There is significant evidence that providing a good, early explanation to patients about what occurred will reduce the distress to the patient, and their likelihood of complaining formally or litigating[42]. However, often doctors are not psychologically or emotionally well placed to do this, and they often lack the skills. Acceptance of responsibility would create a further threat to their identity as a "good doctor/good person". Not only is the doctor's own sense

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[41]   Jauhar S. *Intern: a doctor's initiation.* 2008 Farrar, Straus and Giroux, New York: Chapter 7; Millman 1977 see note 8: Part II - Overlooking Medical Mistakes.

[42]   Wu AW. Cavanaugh TA. McPhee SJ. Lo B. Micco GP. To tell the truth – ethical and practical issues in disclosing medical mistakes to patients. 1997 *Journal of General Internal Medicine*, December, volume 12(12), pages 770-775.

of identity threatened by an admission of error or contribution to patient harm, but there are additional identity threats from the perception of the patient of the doctor as a competent social actor and the perception of other doctors and health professionals. Where the ideal of perfect performance is shared with the other professional observers, such an admission may be seen as "losing face".

Goffman describes the strong drive to protect "face" not only for self but for others, particularly those who share the same "face" because they are also doctors.[43] The shame of one becomes a shared shame, so "face-saving" actions are more likely in these forms of interaction, to also protect the shared Doctor Identity. In contrast, the "face" expected by a patient or family member is likely to be one which is empathetic and honest about what has happened. This conflict between the two "faces" can create even more difficult social interactions for the doctor who seeks to acknowledge their contribution to the patient harm. Where the doctor saves face for self and others, it may be that this contributes to a collective, often unconscious, recasting of events, so that the doctor and his or her colleagues "see" the event and "remember" it through that lens. Doctors can also interpret the actions of other doctors through a sense of shared fear and anxiety. Epitomised in the phrase: 'there but for the grace of God, go I'[44], this can result in wide variance in the interpretation of what has occurred in any clinical situation.

2.   Lessons from the Harvard Medical Practice Study

The identification of preventable patient harm may appear relatively straightforward, though the evidence shows that reporting rates overall are very poor, even where the harm is significant.[45] Even where doctors are looking for an adverse event or preventable patient

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[43]   Goffman E. On Face-Work – An analysis of ritual elements in social interaction. (written in 1967). Essay one in Goffman E. *Interaction Ritual – essays in face-to-face behaviour.* 2008 edition Aldine Transaction, New Brunswick (NJ. USA), pages 5-45: at page 11.

[44]   Irvine 2003 – see note 11: page 24.

[45]   See eg, Classon D. Resar R. Griffin F. Federica F. Frankel T. Kimmel N. Whittington J. Frankel A. Seger A and James B. 'Global Trigger Tool' shows that adverse events in hospitals may be ten times greater than previously measured. 2011 *Health Affairs*, April, volume 30(4), pages 581-589: see especially Exhibit 4, page 586. See also Olsen S. Neale G. Schwab K. Psaila B. Patel T, Chapman EJ. Vincent C. Hospital staff should use more than one method to detect adverse events and potential

harm, there is relatively poor agreement on what constitutes an adverse event, whether it

was caused by health care, whether it was preventable and whether health care was of

satisfactory quality. [46]

The scope of the problem is significant and is illustrated by the inter-rater unreliability[47] of

judgments on quality, safety and preventable patient harm. For example, a large 1996

study, showed that two physician reviewers using a structured review tool disagreed

strongly (12.9%) on the occurrence of an adverse event in more cases than they agreed

(10%).[48] The outlier variation in that study was extreme, with the range being from 9.9%

to 43.7% adverse event rates across the 127 physicians.[49] *Kappa* scores (which show the

level of agreement beyond chance) in this and other studies have shown that the rate of

agreement between expert medical reviewers on adverse events and also judgments on

quality of care[50] is usually only in the poor to moderate range[51]. These levels of agreement

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adverse events: incident reporting, pharmacist surveillance and local real-time record review may all have a place. 2007 *Quality and Safety in Health Care* February, volume 16(1), pages 40-44.

[46] For a useful summary of older studies on reliability of adverse event measures, see Walshe K. Adverse events in health care: issues in measurement, 2000 *Quality and Safety in Health Care*, volume 9, pages 47-52: at Table 4, page 51; see also Goldman RL. The reliability of peer assessments of quality of care. 1992 *Journal of the American Medical Association*, 19 February, volume 267(7), which looked at 12 studies on peer assessments of quality of care and found agreement only slightly better than chance. See also Hayward RA. Hofer TP. Estimating hospital deaths due to medical errors: preventability is in the eye of the reviewer. 2001 *Journal of the American Medical Association*, 25 July, volume 286 (4), pages 415-420: at pages 419-420.

[47] In research involving judgments of more than one rater, inter-rater reliability gives a score about how much consensus or homogeneity there is between the raters.

[48] Localio AR. Weaver SL. Landis JR. Lawthers AG. Brennan TA. Hebert L. Sharp TJ. Identifying adverse events caused by medical care: degree of physician agreement in retrospective chart review. 1996 *Annals of Internal Medicine*, 15 September, volume 125(6), pages 457-464.

[49] See note 48, table 2.

[50] Weingart SN. Mukamal K. Davis RB. Davies DT. Palmer RH. Cahalane M. Hamel MB. Phillips RS. Iezzoni LI. Physician-reviewers'perceptions and judgments about quality of care. *2001 International Journal for Quality in Health Care*, volume 13(3); pgaes 357-365: pages 359-360 and Table 3.

[51] See Goldman 1992 - note 46. See also Lilford RJ. Mohammed MA. Braunholz D. Hofer TP. The measurement of active errors: methodological issues. 2003 *Quality and Safety in Health Care*, volume 12 (supplement II); ii8-ii12: esp. ii9-ii10. The World Health Organisation(WHO) commissioned a study into the issues with different methodologies, which details the experience of inter-rate reliability as well as other issues with this and other quality and safety measures. Michel P. *Strengths and weaknesses of available methods for assessing the nature and scale of harm caused by the health system: Literature Review*. 2003 WHO, Geneva.

are even lower on questions to do with negligence[52] or preventability – sometimes falling to levels which are no greater than chance.[53] While it was hypothesised that agreement could be increased by reviewers talking together, research has shown that, while the degree of agreement *within pairs* who discussed a case increased with discussion, the level of disagreement *between two pairs* looking at the same case did not.

Some deeper insight for why there might be this variation in detection and attribution of adverse events to health care comes from the original Harvard Medical Practice Study, which included a physician interview component in the Litigation Threat sub-study. 93 physicians, who had worked in one of the 51 study hospitals in 1984, were mailed invitations to participate in the interviews, and 47 interviews were completed (response rate 51%).[54] The sample of doctors was limited to 3 specialty groups – Obstetrics and gynaecology, General surgery and Internal medicine. The interviews, which took between one and one and a half hours, asked all doctors introductory questions about what they thought were the most difficult things about practising medicine today, their experience and views about being sued and their views on institutional and regulatory controls.[55]

To understand how a physician understands the concepts of causation, error and negligence, they were then shown two clinical cases studies specific to their specialty group. These described two different patient experiences, both of which involved sub-optimal clinical care and an undesirable outcome from the patient's perspective, ranging from death or severe disability, through failure to diagnose a potentially disabling condition, to the need to re-operate. Doctors were required to give reasons for their judgments, whatever they

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[52]   See eg, Posner KA. Caplan RA. Cheney FW. Variation in expert opinion in medical malpractice review. 1996 *Anesthesiology*, November, volume 85(5), pages 1049-1054

[53]   Thomas EJ. Studdert DM. Brennan TA. The reliability of medical record review for estimating adverse event rates. 2002 *Annals of Internal Medicine*, 4 June, volume 136(11), pages 812-816.

[54]   Harvard Medical Practice Study. (HMPS) *Patients, doctors, and lawyers: medical injury, malpractice litigation, and patient compensation in New York: the report of the Harvard Medical Practice Study to the State of New York.* 1990 Harvard Medical Practice Study Boston. [HMPS Study Report] A full copy of the scanned Report is available electronically through the New York State Library, via WebCat Call no: HEA 302-4 PATDL – 90 33997, as a 4 part download. Accessed 27 September 2006: pages 9-37 to 9-38.

[55]   HMPS Study Report – see note 54: page 9-36.

were. The Report presents the results of their judgments on whether the adverse event was caused by medical management, whether the standard of care was met, whether an error had occurred, whether there was negligence and whether compensation should be available for the relevant set of two cases for their specialty. There was disagreement on one or more of these important concepts, most especially where a decision on negligence is to be made. There was no case where there was agreement among all the doctors interviewed on all concepts, and few where they were even close to agreement. The Study conclusion is that "doctors may have difficulty recognising error and negligence."[56]

For example, in one of the surgery cases, only one doctor found no error. The Study comments on his reasoning as follows:

> … the only surgeon who found no error in the second case reflects the kind of reasoning that diminishes the perception of error. … By concentrating on the potential complications of what initially seems like a preferable course of action, he makes the actual negative outcome of the chosen action seen less adverse. This line of reasoning pays heed to the contingencies, the circumstances, the uncertainty and the delicate balance between alternatives. There is also a heightened awareness of the potential of error, no matter what is done, and the ultimate unavoidability of mistake. Thus, while the majority found evidence of error, the minority view shows how difficult it was for clinicians to recognise it.[57]

There were surgeons who thought an error had been made and yet that the care had met the appropriate standard – the negative consequence for the patient was called a "complication". The Report commented that "claiming a complication fits the standard of care is a way of not being too judgmental or disapproving of a certain class of errors."[58] Two surgeons found a standard of care which the Study describes as a "wide-ranging standard of care [within which] any possible complication could fall"[59]. In this case, the question was a bleeding blood vessel that had been inadequately tied off. One of the surgeons with the wide-ranging standard says of this "I don't think there is any surgeon who can guarantee that every single tie he is going to put on for the rest of his life is going

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[56]   HMPS Study Report – see note 54: page 9-39.

[57]   HMPS Study Report – see note 54: page 9-43.

[58]   HMPS Study Report – see note 54: page 9-43.

[59]   HMPS Study Report – see note 54: page 9-43.

to be secure and not come loose." [60] The majority of surgeons did not accept this standard.

In one of the surgical cases, the question of negligence was even more problematic. A third

of surgeons were on each of the far ends of the negligence spectrum, while the remaining

third could not decide. The Report notes:

> One reason for this difficulty became obvious in the comments of one representative surgeon: "One of these days, I am going to be wrong. So far, I have not, but I will be." Surgeons who identified most easily with the situation had the greatest difficulty deciding about negligence. This natural tendency to identify with colleagues presumably makes judgments of negligence more difficult. [61]

It goes on to say:

> All of this tends to highlight the problems that surgeons, and in fact, all physicians, have in judging negligence. They do not equate failure to meet the standard of care with negligence. Rather they seem to believe negligence requires culpability beyond the standard of care threshold. In short, they cannot admit negligence and so have difficulty labelling care provided by others as negligent. … Most physicians believe they are competent. Even so, they realize that they can make mistakes. The label of negligence, however, appears to make physicians feel as if they were incompetent. Therefore, they are willing to recognize and admit to mistakes but have difficulty naming and acknowledging such mistakes as negligence. Moreover, physicians are unreceptive to the efforts of others to identify negligence, especially those outside the medical profession. [62]

The same difficulties faced the Internal medicine physicians and the

obstetrician/gynaecologists. For example, in one of the internal medicine cases, more than

half of the physicians thought there had been a failure to meet the standard of care and most

thought there has been a definite error, but they differed on whether the care had been

negligent. Some of the comments from those who did not find negligence show the

reluctance of doctors to find negligence in the conduct of another doctor [63].

> "I think it's bad judgment, not negligence; people make wrong decisions after considering. You know – after careful consideration of the facts you can make what turns out to be a bad decision: that's clearly not negligence."
>
> "I don't think I would call this negligence. In fact, luckily, it didn't lead to the guy's death. And probably will not lead to any permanent disability. And so, no, I would not call it negligence. It's just inappropriate, not up to snuff."

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[60]   HMPS Study Report – see note 54: page 9-43.

[61]   HMPS Study Report – see note 54: page 9-44.

[62]   HMPS Study Report – see note 54: pages 9-44 to 9-45.

[63]   HMPS Study Report – see note 54: pages 9-49 to 9.50.

Significant divergence of views also occurred on causation by medical management, even where there was greater agreement on failure to meet the standard of care and recognition of error, particularly among the internal medicine group[64]. Even those internal medicine group members who found negligence were reluctant to agree that compensation should be paid – a less marked but consistent pattern with the surgical group[65].

The obstetric cases which were presented both had bad outcomes – one a damaged child and the other a dead mother. Most obstetricians felt that medical management had contributed to the outcome. The comments of one of those who didn't find such contribution are instructive, as are the Study conclusions following these:

> "It seems not [that medical management contributed to the patient's outcome] … the patient post-operatively was managed correctly. I think there can be surgical bleeders that are missed or ties that slip or whatever, or even vessels that were tacked and then start to bleed in half an hour, you know, after the surgery. Tragic outcome." Thus the lack of a completely avoidable mistake meant for this obstetrician that medical care did not contribute to the adverse outcome. Such a stringent view of contribution was not shared by the majority of obstetricians. But this reflects how for some individual physicians, unless there is a major, or even perhaps wilful blunder, the medical care is exonerated.[66]

Hindsight bias is often seen as a reason why negligence is found more often in cases with particularly bad outcomes[67], but in all the cases looked at across the three specialty groups, this doesn't seem to have occurred for the physicians surveyed. In the four cases with serious outcomes (death or permanent high level disability), the majority of doctors found

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[64]   HMPS Study Report – see note 54: pages 9-50 to 9-51.

[65]   HMPS Study Report – see note 54: Table 9.11, page 9-48 and Table 9.10, page 9-42: see also page 9-51.

[66]   HMPS Study Report – see note 54: page 9-55.

[67]   See eg, Henriksen K. Kaplan H. Hindsight bias, outcome knowledge and adaptive learning. 2003 *Quality and Safety in Health Care*, volume 12 (Supplement II), pages ii46-ii50.

negligence in only 2 of these cases[68]. In the two less serious cases, negligence was found in one [69] and not in the other[70].

This study showed doctors make decisions that defend their collective identity when looking at even simplified cases. These were cases in which they had no personal stake, and yet still identifying patient harm as causally connected to doctor performance was difficult. This was also the case in all the adverse event studies, where the doctors were specifically looking for these events, where they had not been involved in these cases. Similar problems have arisen in judgments about quality of care, and may also be reflected in the poor levels of voluntary reporting of incidents by doctors. Low reporting has often been blamed on the fear of litigation, but poor reporting and high levels of adverse events seem to be independent of the nature of the litigation system. This problem persists across countries which have fault-based tort systems and no-fault medical injury schemes, as noted in Chapter 1. Another explanation has been the fear of disciplinary proceedings – with the consequent recommendation of the need for a "no-blame" approach to the reporting of adverse events. While these may be contributors to low levels of reporting, they cannot explain the significant variation in identification in these studies. The doctors in these studies were not under threat from either discipline or litigation, and yet, there was still wide variation in what they perceived about the facts provided.

3.   The contested space

The case studies in the Litigation Threat sub-study show a different mechanism at work – what the medical sociologist Bosk calls the "essentially contestable nature of medical error". He notes that while it is unarguable that better knowledge and understanding could come from improved reporting of errors, this is not a simple thing to achieve and a doctor's ability to do this should not be taken for granted:

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[68]   HMPS Study Report – see note 54. Compare Case 2, Table 9.10 at page 9-42 (negligence); Case 2 Table 9.11 at page 9-48 (not negligence – evenly balanced) and Table 9.12 at page 9-54, case 1 (negligence) and case 2 (no negligence).

[69]   In this case it was by a 9/7 majority. HMPS Study Report – see note 54: Table 9.11, page 9-48.

[70]   Case 1 in Table 9.10: HMPS Study Report – see note 54: page 9-42.

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For such reporting to be effective, … the participants in the current system have to be able to "see" the events that they need to report for system performance. … Everyone knows that errors are an untoward event whose occurrence need to be minimized. What workers do not agree on as events unfold is what happened and why. They do not agree on whether a specific event was an error. The more neutral language of adverse event helps some. But, even here, to be reported, an event needs to be perceived and whether such "seeing" occurs in the current system is an open question.[71]

This failure, limitation or lack of agreement in perception is consistent with the action of human psychological defences to a threat to identity. When a doctor notices an incident, there are often several plausible explanations, some of which would operate as a threat to their identity as a "good" doctor. If the incident could involve a colleague in that same threat, there is the additional loyalty owed to peers – the "tribal" obligation discussed in Chapter 6. These threats unconsciously or consciously affect the categorisation of the incident by the doctor. They influence the possible explanation chosen by the doctor. That choice is likely to shape whether the event is reported as an incident, and how (or even if) it is noted on the patient's medical record. Not reporting such an incident is even more likely when the event is common. Even where the threat of death or injury is substantial, such events may well go unreported, unless the risk crystallises and death or permanent injury trigger reporting. These responses contribute to a health care environment which is both error prone and harm tolerant.

Those who have been actively trying to bring about safer health care over the past two decades sometimes express despair about the lack of progress across the system. While there are a number of centres of excellence, it has proved difficult to propagate these across the health care system. Patient safety leaders have experienced great frustration, and some have criticised the medical profession for its failure to take prompt and effective action in relation to reducing the level of preventable patient harm – what Don Berwick[72] called "a

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[71]   Bosk CL. *Continuity and change in the study of medical error – the culture of safety on the shop floor.* Occasional Papers of the School of Social Sciences, Paper Number 20. February 2005 Unpublished. This paper can be accessed on the web at the following address http://www.sss.ias.edu/files/papers/paper20.pdf : accessed 21 August 201: page 9.

[72]   Dr Berwick was on the Institute of Medicine's Committee on Quality of Health Care in America that prepared *To Err is Human* and chaired its Subcommittee on Building the 21st Century Health Care

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deficiency of will and ambition"[73]. The inadequate professional response to the known
issues relating to preventable patient harm has led to public questioning (and questioning
by doctors themselves) of the commitment of the profession to providing safe care to
patients. This has been one of the drivers towards establishing consistent national
standards and greater external scrutiny of safety and quality in Australian health care.[74] It
is arguable that until the psychological consequences of the threat to the Doctor identity
posed by medical error and patient harm are recognised and addressed, even these
regulatory approaches will not achieve the breadth of change necessary for health care to be
made safer for patients, as well as more emotionally and psychologically satisfying for
doctors.

D.   The Doctor Identity and emotional responses to preventable patient harm

1.   Emotions and self-image

Chapter 3 noted that threats to identity give rise to a range of emotions, depending upon the
context. The emotions triggered for doctors, when they become aware that they have made
a mistake or harmed a patient, include fear, anxiety, shame, humiliation, guilt and
embarrassment. Which emotions are experienced will depend on a range of environmental
circumstances, such as whether the event is known only to the doctor or to others, whether
the patient recovered or died because of the event, and whether the event becomes subject
to a formal process, like a complaint, disciplinary process or litigation. Sometimes an
initial emotional response will give rise to others, including anger and resentment, or one of

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System. He is also the Chief Executive Officer of the Institute for Healthcare Improvement based in Boston.

[73]   Galvin R. A Deficiency of Will and Ambition: A conversation with Donald Berwick.

[74]   The Standards are established as part of the Australian Health Services Safety and Quality Accreditation Scheme endorsed by all Australian Health Ministers in November 2010. The first standards were established with two kinds of actions under the standards – those which were care, with which compliance was mandatory and those which were developmental. To pass accreditation from that date a health service had to pass all core actions – there are 10 standards, with 209 core actions and 47 developmental actions, in November 2015. The status of these actions will be reconsidered in the development of the Review of the National Standards to be completed in 2017.

the other emotions like fear or anxiety with future interactions with patients, or fear of discovery of a mistake and shame, if it later becomes public.

While doctors may opt to leave medicine or to stop practicing clinical medicine in response to some of these emotions, often they simply internalise these emotions[75]. This can have a profound effect on their mental well-being[76], their susceptibility to burn-out and their capacity to manage their emotions towards patients, other staff and themselves, as it can leave the brain's threat system permanently on alert. It may also deeply impact on their therapeutic capacity to provide empathic care. For example, one defence to a doctor's emotional responses to the suffering of a patient widely modelled by doctors and other health professionals is "professional detachment", which is incompatible with empathic care[77].

The doctor's identity, as a professional and social actor, has common characteristics which can interact with these emotions and the doctor's sense of self in complex ways. For example, doctors frequently exercise significant power in their professional life, in a hierarchy, where in most cases, they sit at or near the peak, so doctors see the exercise of power and control as part of "being a doctor". However, the imposed and self-imposed "demands" of their work on their time and energy often result in little time for reflection on their emotions or their practice. These demands can result in a feeling of not being "in control" of their work and sometimes their lives. The conflict between the "in-control" medical image and feelings of being out of control can result in doctors exercising power in ways which may be maladaptive, as discussed below.

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[75]   Elwahab SA. Doherty E. What about doctors? The impact of medical errors. 2014 *The Surgeon – Journal of the Royal Colleges of Surgeons of Edinburgh and Ireland*, December, volume 12(6), pages 297-300; Waterman AD. Garbutt J. Hazel E. Dunagan WC. Levinson W. Fraser VJ. Gallagher TH. The emotional impact of medical errors on practicing physcians in the United States and Canada. 2007 *The Joint Commission Journal on Quality and Patient Safety,* August, volume 33(8), pages 467-476.

[76]   See Beyond Blue. *National Mental Health Survey of Doctors and Medical Students*. October 2013 Beyond Blue, Sydney at https://www.beyondblue.org.au/docs/default-source/research-project-files/bl1132-report---nmhdmss-full-report_web.

[77]   See Halpern J. *From detached concern to empathy – humanizing medical practice*. 2011 Oxford University Press, New York.

2. Lack of emotional support

As concluded in Chapter 5, young doctors are often isolated from supports outside of their professional colleagues. They often shed other activities that can potentially provide supports throughout their training because of the intensity of their professionalisation. This isolation can reduce their resilience when their identity is threatened and leave them with a deep sense of disconnection. As discussed in Chapter 6, the "tribal" nature of the profession then ensures that the maintenance of these professional relationships becomes central both professionally and personally. As discussed above, the maintenance of the myth of perfect performance serves to enhance not just the individual medical reputation but the collective professional one. Because at some level all doctors know they make mistakes, but the maintenance of the peer relationships is crucial to their professional survival and well-being, they face two dilemmas.

First, if a doctor admits an error in his or her own performance, this may lead them to experience shame before peers. Second, if a doctor notices errors, harm or poor performance in another doctor, they may face ostracism if they raise concerns. Denial and mutual support, based upon loyalty to "the profession" provide a safer option for the Doctor identity. This is one of the explanations of "late notice" where a doctor is a dangerous practitioner. As well as the absence of accurate and "real time" performance data, "the norms of professional etiquette and equality among peers make it difficult to pass judgement on a fellow doctor":

> This reluctance to criticize grows, of course, out of the way doctors think about mistakes. Uncertainty, necessary fallibility and shared vulnerability buttress such reticence. Clinical freedom, particularly among senior doctors, is deeply cherished. All these, along with hesitation to interfere in another's livelihood, combine to delay taking action at all points along the continuum of informal mechanisms [of self-regulation].[78]

Unfortunately, the thin carapace of loyalty often simply sits upon a mess of conflicting fears and does not provide certain protection for the Doctor. Intra-professional relationships often also involve competition and jealousies that mean that loyalty may be a

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[78] Rosenthal MR. How doctors think about medical mishaps. Chapter in Rosenthal MR. Mulcahy L. Lloyd-Bostock S. (editors) *Medical mishaps – pieces of the puzzle.* 1999 Open University Press, Buckingham (England), pages 141-153: page 150.

fragile shield. The fear that the self-serving, collective blindness to error and harm will be uncovered at any time creates on-going anxiety at a deep level. So far as their duty to patients are concerned, it is likely that a doctor experiences further internal conflict – a form of "imposter syndrome". This occurs where the doctor experiences self-doubt about their virtue as a doctor because of the possibility of error and patient harm. As discussed in Chapter 6, doctors live in a position of privilege and status inside and outside of their profession, and this means they have a deep stake in maintaining their professional identity. The combined fear of betrayal, of exposure and of humiliation and having a lot to lose at a practical level, is a powerfully unsettling combination.

Another example of the trauma and psychological complexity associated with being unable to be open about mistakes comes from the work of Dr David Hilfiker in his 1984 article "Facing our mistakes":

> Doctors hide their mistakes from patients, from other doctors, even from themselves. … Unable to admit our mistakes … we are thwarted, stunted, we do not grow. … But if we are unable to deal openly with those that do occur, we will find neurotic ways to protect ourselves from the pain we feel. Little wonder that physicians are accused of playing God. Little wonder that we are defensive about our judgements, that we blame the patient or the previous physician when things go wrong, that we yell at nurses for their mistakes.[79]

Paget in her book *The Unity of Mistakes* considers doctor's responses to medical error. She notes that clinical medicine is an "error-ridden activity" to its core. By this conclusion, she determines that the ordinary usage of the term "error" implies acts that are "uncommon, aberrant or culpable" is not appropriate for medicine, where "it is the whole activity that is exceptional, uncommon, and strange because it is error-ridden, inexact, and uncertain and because it is practiced on the human body"[80]. She describes doctors' reactions to medical mistakes as "complex sorrows of actions going wrong … not unmediated expressions of grief". She concludes that the busy, conflicted life of medicine, where there is always more work to be done than time available, makes it impossible for doctors to grieve their mistakes in the usual way, because they are "too common, too endemic, to be released" by

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[79]   Hilfiker 1984 – see note 9.

[80]   Paget MA. *The Unity of Mistakes – a phenomenological interpretation of medical work.* 1988 Temple University Press, Philadelphia: Chapter 4 – The semantic sense of mistakes at page 58.

Chapter 4 – Patient harm and vulnerabilities of the Doctor Identity

periods of grief.[81] Because of the incompatibility of this aspect of clinical care with the Doctor Identity story of perfect performance, there becomes no place for doctors to resolve their grief and anxiety about actual or potential harm to patients. In a particularly poignant statement, the French surgeon Rene Leriche expressed the consequences this way "Every surgeon carries within himself a small cemetery, where from time to time he goes to pray – a place of bitterness and regret, where he must look for an explanation for his failures".[82]

3.　　An untrustworthy system for doctors and patients

This is compounded by the legal and cultural context of the hospital environment or other health care environments in which a doctor may practice. Because of the threat to the Doctor Identity posed by an admission of error or preventable patient harm, mixed messages about the consequences of disclosure create an untrustworthy space for doctors to acknowledge and deal with their own errors and harms contributed to by them. There is a prevalent spoken institutional message that errors and harm are the consequence of the "flawed system" – the "good people in flawed systems" meme discussed earlier. However, in most hospitals, the responsible agent for system-based problems for legal purposes is likely to be the hospital itself. The superficial nature of the "institutional commitment" to a systems-based approach can become immediately apparent when it is most needed by the doctor.

Instead of acknowledging the hospital's collective responsibility for system problems and working to address the issue as a systemic level, hospital administrators and managers will, in all likelihood, place the critical spotlight back onto the doctor. This can be for financial reasons, because the doctor is now seen as a potential financial contributor to any compensation that may be payable. It may sometimes be for political reasons, when the perceived failure of the hospital may be targeted back to the bureaucratic leader (such as the head of the hospital or the Health Department) or the relevant political leader (such as

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[81]　　Paget 1988 – see note 80, Philadelphia, Chapter 6 – The complex sorrow of clinical work at page 96-97.

[82]　　This is a quote from *La philosophie de la chirurgic*, published in 1951. Its appears in the epigraph to a book by the neurosurgeon Henry Marsh. *Do no harm – stories of life, death and brain surgery*. 2014 Weidenfeld & Nicolson (Orion Books), London.

the Health minister). In either case, suddenly, the individual doctor becomes a convenient scapegoat for the leadership, rather than a valued part of the system for which the leaders are responsible. A doctor quite accurately sees the hypocrisy and understands the fragility of the system as protection. Publicity and litigation often result in humiliation, which itself is described as "losing trust in the world"[83] and this works not only against the doctor involved but creates a fear of humiliation in all others. These practices work powerfully against a recognition or admission of error or harm and against a supportive change in culture for both doctors and patients. With litigation providing a very public form of humiliation for doctors, when a doctor is left unprotected by the institution at that time, it is witnessed by all other doctors as betrayal and banishes the trust necessary for a more transparent and honest accounting for preventable harm.

A hospital risk management approach focussed first on avoiding litigation, allegedly to protect the hospital's finances[84], can also compromise the good intentions of doctors who wish to discuss what happened with a patient. Despite the evidence that openness and an effective apology often avoids litigation and complaint escalation and minimises payments when damages are payable[85], hospitals often seek to put overt protection of the organisation before the doctor's ethical duty of truth-telling to the patient.[86] The language used in a risk management approach, compared to a truth-telling, explanatory, apology-based approach often comes across to patients and families as insincere, duplicitous and as if the hospital is "hiding something".

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[83] Leask P. Losing trust in the world: humiliation and its consequences. 2013 *Psychodynamic Practice*, volume 19(2), pages 129-142.

[84] There is now significant literature that truth-telling and responsible financial management are in fact complementary strategies – see note 85 below.

[85] Perhaps one of the longest term living studies of this occurred when the Veteran's Affairs Medical Center at Lexington decided to adopt a pro-active policy in medical cases that had the potential to result in litigation. The concept was not risk management, but clinical care continuation (set out in next paragraph above). The unexpected result of this policy was that the number of patients who received compensation was more, the total paid was significantly less and the transaction costs were very significantly reduced. These results have been replicated in other environments. Woods MS. *Healing Words: the power of apology in medic*ine. 2nd edition. 2007 Joint Commission Resources, Illinois (USA): see especially Chapter 10. See also Kraman SS. Hamm G. Risk management: extreme honesty may be the best policy. 1999 *Annals of Internal Medicine*, 21 December, volume 13(12), pages 963-967.

[86] Wu AW. et al 1997 – see note 42. Wu et al discuss the ethical and practical issues in disclosing medical errors.

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This was often the outcome for patients in the Australian Open Disclosure pilot, where the standard set out that a doctor should make an "expression of regret", rather than an apology[87]. When it was being drafted by Standards Australia, a decision was made not to use an approach based on the doctor's duty towards the patient, but to instead use an institutional risk management focus[88]. This differed strongly from the approach taken in the US disclosure models, based on the Veteran's Administration model in Lexington, Kentucky, which was based on a practice and intention "to maintain a humanistic care-giving attitude to those who had been harmed, rather than to response in a defensive and adversarial manner". The Australian risk management focus often left both patients and doctors unhappy. As noted in the evaluation, this is "the tension at the heart of the Open Disclosure apology".

> A sincere apology from the right person can clear the air, even in very serious situations. The Open Disclosure Standard limits staff to the partial apology. Yet it is evident from both health care staff and the consumer interviews that sincerity is most valued and performed if deemed possible and/or necessary, the limit inscribed into the Standard notwithstanding. A problem posed by this limit is that – paradoxically – people's sincerity will lead them to transgress the formal limit. People resolve problems and misunderstandings by being sensitive to their and the others' morality and humanity, not by rigidly observing a rule that loses its relevance in the face of lived experience. The unique opportunity offered by Open Disclosure resides in the radical notion that being open about adverse events is more congruent with the objective to provide care and therefore more effective than any legal or bureaucratic protections.

Following the evaluation and Review of the Standard, a new Open Disclosure Framework was proposed, in part, to address this paradox[89]. The Review Report stated that "[o]verseas evidence and Australian experience suggest that disclosure is more effective as an ethical

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[87]   Iedema R. Mallock N. Sorensen R. Manias E. Tuckett A. Williams A. Brownhill S, Perrott B. Hegney D. Hor S. Piper D. Scheeres H. *Evaluation of the Pilot of the National Open Disclosure Standard – Final Report got the Australian Commission on Safety and Quality in Health Care*, 2007 University of Technology, Sydney: page 98.

[88]   The thesis author was a consultant to Standards Australia, and the first draft of the standard was focussed on the patient's right to know what has happened to them, and, so far as possible, for the doctor to honestly inform the patient what had happened to them. Standards Australia rejected that approach and opted to use an insurance risk manager to prepare the standard. This fundamentally shaped the Open Disclosure pilot process in Australia.

[89]   Australian Commission on Safety and Quality in Health Care (ACSQHC). *Open Disclosure Framework 2013*. 2014 ACSQHC, Sydney.

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practice that prioritises organisational and individual learning from error than solely as an organisational risk management strategy"[90].

The new framework, while focussing much more on the obligations to honestly inform patients and families when things go wrong, remains partially focused on potential liability and risk avoidance[91]. While the words "apology" and "saying sorry" now appear in the standard, there remains a mixed message about various potential legal and insurance issues around disclosure[92]. This continues to create a dilemma for the doctor, who is already anxious from the identity threat arising from preventable harm or medical error. The doctor may feel compelled by guilt, ethical or moral duties to tell the patient exactly what happened, to apologise and accept responsibility and to make amends but there is no certainty that they will be supported in this process by their hospital or their medical defence organisation. This in turn creates further internal conflict about whether to give highest regard to the ethics and values relating to the doctor patient-relationship or to run the risk of losing employment or insurance cover, by going against the risk averse advice of the institution or insurer, neither of whom feel bound by the same ethical altruistic obligation as the doctor. While the Australian Commission on Safety and Quality Commission's new Framework moves from the older primary focus on risk management, these changes are relatively new and have not been universally implemented. This magnifies the degree of uncertainty that a doctor perceives about his or her safety in "doing what is right", when already in a state of threat arousal. This uncertainty magnifies the fear and anxiety felt by a doctor faced with telling a patient about preventable harm or medical error involving a "near miss".

It is not inappropriate that a doctor wants to avoid harming a patient or feels guilt when involved in harming a patient. These may be seen as emotions leading to moral behaviour,

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[90]   Australian Commission on Safety and Quality in Health Care (ACSQHC). *Open Disclosure Standard Review Report*. 2012 June ACSQHC, Sydney: page IX.

[91]   For details of the differences between the original standard and the new Framework, see Australian Commission on Safety and Quality in Health Care (ACSQHC). *Key differences between the Australian Open Disclosure Framework and the Open Disclosure Standard.* 2013 ACSQHC, Sydney.

[92]   ACSQHC 2013 – see note 89:see for example Appendix 1, and section 10.2.

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as discussed in Chapter 3. However, where a doctor has no place or person to debrief with, and no way to acknowledge the accompanying emotions, such as grief and guilt, the emotions may result in maladaptive behaviours in doctors and a failure to act more safely next time. Fear remains a natural, useful human warning signal that there is danger and care is required. Where it leads to a doctor putting in place better clinical processes to provide barriers between errors and the generation of harm, then this can be a positive response. For example, many of the changes in behaviour which doctors describe to avoid patient complaints include better record-keeping, more testing, more follow-up, better communication with patients and families, better risk disclosure before treatment and reviewing out-of-hours processes to better meet patient needs[93]. This has become known as positive defensive medicine and can have benefits for both patients and doctors. In contrast, negative defensive medicine occurs when doctors feel compelled to carry out tests or treatments for their own protection from complaint or criticism, even if this exposes the patient to unnecessary risk[94] It is an illustration of a maladaptive response to fear in the context of the doctor-patient relationship.

The complexity of emotions relating to medical error and patient harm, and the various role attributes of doctors as social actors are a rich psychological soup, which doctors cope with in many different ways. Some of these may be considered adaptive, in that they enhance their capacity to perform as doctors. Others may be considered maladaptive, because they can make clinical care and relationships generally more difficult within medical practice and in life more generally.

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[93]   Jain A. Ogden J. General Practitioners' experiences of patients' complaints: qualitative study. 1999 *British Medical Journal*, 12 June, volume 138 (7198), pages 1596-1599; Mulcahy 2003 – see note 22: page 108-109.

[94]   Summerton N. Positive and negative factors in defensive medicine: a questionnaire study of general practitioners. 1995 *British Medical Journal*, 7 January, volume 310, pages 27-29.

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4.   Maladaptive responses to identity threats caused by medical errors and preventable patient harm: Arrogance and hubris

Arrogance is said to be common among doctors. Berger[95] describes it as "manifested in diverse ways, such as a lack of proper respect, consideration, and good manners toward patients, nurses, and other ancillary staff; failure to pause, listen and share a friendly word or two; being abusive or critical of subordinates, sometimes even in the patient's presence; and for male physicians addressing women condescendingly using terms such as "dear" or "honey"." The past editor of the British Medical Journal, Dr Richard Smith describes hubris as extreme pride or arrogance – of men acting as gods, and then adds further that hubris involves a disconnection from reality and an over-estimate of one's own competence and capacities, often in someone exercising power[96]. Other doctors provide examples of medicine's collective hubris in the gradual exposure by properly constituted clinical research that common practices, agreed between expert doctors, are wrong.[97] Yet others talk of the arrogance of the health system, where "the patient is seen not as a person but merely as a job to be done cost-effectively".[98]

Coulehan's article *On Humility* describes the development of arrogance in doctors through a sense of personal entitlement. He sees this as arising from the combined effect of popular culture of instant gratification and medical education and training in a hospital culture that "undervalues introspection and vulnerability and "teaches self-interested behavior under the cover of idealizing devotion to the patient's best interests". He observes the negative impact of arrogance on hospital morale and its amplification of stress in the workplace, and the high staff-turnover that results from these.[99]

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95   Berger AS. Arrogance among physicians. 2002 *Academic Medicine*, February, volume 77(2), pages 145-147.

96   Smith R. Should hubris be a disease? 2013 *BMJ Group Blogs*, 12 February.

97   Mendrola J. Changing the culture of American Medicine – start by removing hubris. 28 July 2013 http://www.drjohnm.org/2013/07/changing-the-culture-of-american-medicine-start-by-removing-hubris/ commenting on Prasad V. Vandross A. Toomey C. Cheung M. Rho J. Quinn S. Chacko SJ. Borkar D. Gall V. Selvaraj S. Ho N. Cifu A. A decade of reversal: an analysis of 146 contradicted medical practices. 2013 *Mayo Clinic Proceedings*, August, volume 88(8), pages 790-798: http://dx.doi.org/10.1016/j.mayocp.2013.05.012

98   Berger AS. 2002 – see note 95: Abstract.

99   Coulehan J. Williams PC. Vanquishing virtue: the impact of medical education. 2001 *Academic Medicine*, June, volume 76(6), pages 598-605.

Doctors may also respond to the identity threat of error and harm through a defensive stance that is a false or inadequate understanding of how human beings function, particularly if they consider that doctors are not subject to the negative effects of stressors (including busyness, fatigue and anxiety) in the same way as other human beings. Sometimes this latter trait is labelled as "hubris"[100], "narcissism"[101], or the "God complex"[102], but it may also be seen as a psychological defence that allows doctors to believe in themselves, their capacities and an optimistic probability of perfect performance[103]. Historically when much of medicine was simply based on the patient's intrinsic capacity to heal, faith in an omnipotent doctor may have served to increase the chance of recovery by the patient through the placebo effect.[104] However, where the belief of omnipotence exists in the doctor, rather than the patient, this level of self-belief becomes a risk factor for preventable harm to a patient and for failure to set up systems to detect error before harm occurs.

Arrogance and hubris can be seen as defensive strategies to threats to the Doctor Identity, through exerting power over others (though knowledge or hierarchical power), when the primary emotion felt by the doctor is, in fact, fear and powerlessness. Attacking or posturing when feeling vulnerable is a relatively common human response. Arrogance is also a detaching and distancing mode of response to patients and others, often when the doctor is feeling overwhelmed and stressed. A doctor may be unaware that they are being arrogant.

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[100]   See eg, Mendrola 2013 – at note 97

[101]   Banja J. *Medical errors and Medical Narcissism.* 2005 Jones and Bartlett Publishers, Boston.

[102]   Dowd M. Decoding the God Complex. 2011 *New York Times – the Opinion Pages.* 27 September. Sighted on 12 March 2016 at http://www.nytimes.com/2011/09/28/opinion/dowd-decoding-the-god-complex.html?_r=0

[103]   See Fine C. *A mind of its own – how your brain distorts and deceives.* 2006 Allen and Unwin, Sydney: "The vain brain – for a softer kinder reality": pages 1-29.

[104]   Specter M. The power of nothing – could studying the placebo effect change the way we think about medicine? 2011 *New Yorker – Annals of Science.* 12 December. Sighted on 12 March 2016 at http://www.newyorker.com/magazine/2011/12/12/the-power-of-nothing

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Chapter 6 below discusses various societal and professional privileges that reinforce the high status of the Doctor Identity, as well as the heroic media images that may foster hubristic pride. Hubris is delineated from authentic pride in research by several specific features. Compared to authentic pride, hubristic pride is characterised by striving after extrinsic goals that lead to public recognition, such as popular fame and financial success, a focus on continual striving for a higher place in the hierarchy (an evolutionary dominance strategy), low concern with interpersonal connectivity, aggression and disagreeableness, higher levels of impulsivity and lack of restraint[105].

These kinds of doctor behaviours associated with both hubris and arrogance have been the subject of some study in Australia and overseas, and are implicated in poor patient care and poor staff morale. The Doctor-Nurse Behavior Survey[106], conducted by the American College of Physician Executives in 2009 revealed a picture of significant poor behaviour between doctors and nurses[107], with doctor behaviour being more problematic[108], but nurses being terminated more often than doctors[109]. The five most frequent forms of bad behaviour included degrading comments and insults (84.5%), yelling (73.35), cursing (49.4%), inappropriate joking (45.5%) and refusing to work together (38.4%). There were also a high number of incidents involving trying to get someone disciplined unjustly (32.2%) or fired unjustly (18.6%) and 18.9% involved throwing objects such as surgical instruments, power tools, telephones, floor mats and clipboards[110]. While some of the

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[105]   Carver CS. Johnson SL. Authentic and hubristic pride: differential relations to aspects of goal regulation, affect and self-control. 2010 *Journal of Research in Personality*, volume 44(6), pages 698-703. At its edges, hubristic pride begins to shift into more problematic psychiatric conditions, like narcissistic personality disorder. Specific mental illnesses associated with medicine and medical error are beyond the scope of this thesis but there is an excellent book on one aspect of this subject by John Banja. See Banja 2005 at note 101

[106]   Johnson C. Bad Blood: Doctor-Nurse Behavior Problems impact patient care. 2009 *Physician Executive Journal*, November-December, volume 35(6), pages 6-11.

[107]   There were also reports of poor behaviour between nurses and nurses

[108]   Overall 47.9% of organisations reported both nurses and doctors equally exhibited problem behaviours, while 45.4% said it was doctor behavior, and 6.8% said it was nurse behaviour. Johnson C. 2009 – see note 106, table 7, page 10.

[109]   The Survey showed 61.2% of organisations had terminated nurses for behaviour problems, and 22.2% had terminated doctors for behaviour problems. Johnson C. 2009 – see note 106, tables 8 and 9, page 10.

[110]   Johnson C. 2009 – see note 106, table 5, page 8 and discussion of what was thrown on page 7.

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behaviours described such as throwing a scalpel or squirting a syringe in a co-workers face may involve criminal liability, the respondents noted that "It's the everyday lack of respect and communication that most adversely affects patient care and staff morale".[111] The frequency of bad behaviour was concerning as well, with almost 40% of organisations reporting such behaviour daily to weekly, just over a quarter monthly and a further 31% several times year.[112] The Survey report notes that patients' lives are put at risk by these kinds of bad behaviour, providing several examples where patients remained untreated and died as a result of the delays caused by the bad behaviour. Families and patients who witnessed abusive behaviour between team members had their confidence in the care being received by their loved one undermined, resulting in unnecessary stress for them.[113]

Australian studies have looked instead at the incidence of bullying behaviour by doctors, some of which overlaps with disruptive behaviours, but its seems unlikely to include the less egregious "everyday discourtesies" discussed in the US Survey results. The most recent bullying studies published by the Royal College of Surgeons and the ACT Health are discussed in more detail in Chapter 6. A 2012 study involving a cohort of doctors currently in paid work across Australia and in a variety of settings [114] showed 25% of the 747 doctor participants[115] had experienced bullying in the previous 12 months and that 45% had been perpetrated by other doctors and 27% by managers. There was also 15% where the bullying was perpetrated by patients or relatives, possibly reflecting the higher incidence of general practice involvement in this survey and 4% where nurses or midwives were the perpetrators. [116] While not as ubiquitous as the incidence of medical error and patient harm, the frequency of disruptive behaviours by doctors (and others) appears to be

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[111]   Johnson C. 2009 – see note 106, page 6.

[112]   Johnson C. 2009 – see note 106, table 4, page 8.

[113]   Johnson C. 2009 – see note 106, page 19 – Patients in the middle.

[114]   Askew D. Schluter PJ. Dick ML. Régo PM. Turner C. Wilkinson D. Bullying in the Australian medical workforce: cross-sectional data from an Australian e-Cohort study. 2012 *Australian Health Review*, May, volume 36(2), pages 197-204.

[115]   Askew D. 2012 – see note 114. The survey population consisted of 27 interns, 549 specialists including General Practitioners and 188 were neither interns or specialists. One third of participating doctors were General Practitioners. 58% of doctors worked in hospitals and 38% in general practice. Half worked in the public sector and 30% in the private for profit sector: page 199.

[116]   Askew D. 2012 – see note 114: Table 3, page 201.

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unacceptably high in health care, and there is sufficient recent evidence to believe that it remains a significant problem, notwithstanding some proscriptive or guidance actions by regulatory bodies[117].

The explanation for these kinds of behaviours among doctors and, to a lesser extent, others in health care is often linked to stressful work environments, where expectation and workloads place unreasonable demands on doctors and others. However, the significantly greater incidence of these behaviours observed in doctors, is consistent with the higher levels of hubris and arrogance reported among doctors. While some of this may be a circular consequence of imputing arrogance from the disruptive behaviours, it seems plausible that the higher incidence of these behaviours in doctors come from the combination of the stressful health care environment, combined with their own additional stress levels arising from their protection of the Doctor Identity.

Some of this may be generated by fear of mistakes, and other stresses may be a consequence of the hubristic response to any challenge to medical authority. Where such challenges might be seen as inferring an error or risk of harm, a doctor may see this as a direct threat to his or her identity, power and position. In the delusional world of perfect performance, where one's core professional identity is shaped around the jealous protection of knowledge as part of the power over others, questioning behaviour is also a direct threat to identity. Each of these threats result in the trigger of both denial and the "fight-flight" response. Where a doctor becomes triggered in this manner, it may give rise to what is called a "neural hijacking" centred on the amygdala[118], which can involve behaviour not unlike a child, who has a tantrum. The purpose of the single focus of the response to threat, in evolutionary terms, was to survive an attack. A threat to identity is a psychological

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117   In the US, the Joint Commission issued a Sentinel Event Alert entitled *Behaviors that undermine a culture of safety*. (Issue 40, 9 July 2008), which introduced two Leadership requirements related to addressing these concerns. These were a code of conduct relating to disruptive and inappropriate behaviours and a process for managing these behaviours. In Australia, the 2014 *Good Medical Practice: A code of Conduct for Doctors in Australia* issued by the Medical Board of Australia (against which the appropriateness of doctor behaviour is determined, refers only briefly to bullying and harassment (4.4.5) and to teamwork including mutual respect (4 more generally). Behaviour reported in Medical College surveys conducted over the past year and a half indicate that negative behaviours remain prevalent in health care and that further efforts are needed to address these.

118   Goleman D. *Emotional Intelligence*. 1995 Bantam Books, New York: page 13.

version of this. In a small child, who has not yet learned to self-regulate, the flood of emotions when their want and needs are thwarted can result in tantrum behaviours. Tantrums, like neural or amygdala hijacking as this is sometimes called, involve a response which short-circuits the neo-cortex, thus preventing the brain's capacity to emotionally regulate the response. The executive function of the neo-cortex, which normally moderates more basic threat responses, does not have the opportunity to become engaged[119].

These reactive behaviours are similar to some of the disruptive behaviours described in the above studies. One incident reported in the 2009 US Doctor-Nurse Survey epitomises exactly such a response, where "one surgeon … threw himself on the [Operating Room] floor while a patient was still open and under anaesthesia because an instrument was not working properly". While it is an unusual response to such a frustration, it is consistent with the kinds of behaviour that might occur in an "neural or amygdala hijacking" experience, where the triggered response related to a much deeper threat. These provide further evidence of unregulated emotional responses to threats to identity.

5.   Mental health and the Doctor Identity: anxiety and trauma

The unacknowledged psychological stresses relating to the various threats to the Doctor Identity and the failure of supports for healthy ways to deal with the natural consequences of being human, in combination, cause health and well-being risks to doctors[120]. The results are evidenced by the incidence of burn-out and mental ill health among doctors. A doctor knows at some level, that his or her humanity means perfect performance is unachievable, but that anything less may expose them to shame and humiliation. This produces a powerful source of continuous anxiety. Having few places to talk about these issues means that it is significantly more difficult to manage the anxiety and to work on other strategies to relieve the stress. This in turn, can impact negatively on resilience.

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[119]   This neural short-cut, where the emotional rather than thinking brain is engaged, was proved through the work of Joseph LeDoux, discussed in Chapter 3 below. See LeDoux J. *The Emotional Brain – the mysterious underpinnings of emotional life*. 1996 Touchstone Books, New York.

[120]   This is evident in the National Mental Health Survey of Doctors and Medical Students, produced by Beyond Blue in October 2013, which showed very high levels of psychological stress among doctors, compared to the Australian population and other professionals. – see note 76.

In addition, doctors frequently do not look after their own health[121]– physical, psychological or emotional – in part absorbing the schema discussed in Chapter 6, where doctors do not see themselves as vulnerable to illness or lack of well-being. Sometimes this lack of self-care arises from an overzealous sacrificial effort of putting the needs of patients before any of their own needs. Whatever the reason for not looking after their own health, it can have significant and sometimes tragic results for the doctor. Combined with fatigue and stress, doctors are set up to experience burn-out and mental ill health. There is significant evidence of this in data on substance abuse by doctors[122], in increased rates of suicide[123] and evidence of depression and other signs of "burn-out"[124].

These issues can be aggravated when a doctor causes harm to a patient. As well as emotions like shame and humiliation, doctors experience a deep sense of isolation where they can talk to no-one and where no-one will understand their sadness, guilt and even despair.[125] Where a feeling of shame accompanies the harm or error, this can amplify the silence and secrecy surrounding the event. Brown describes the interconnected "shame web", which surrounds a person with the images and ideas of what they should be, how they should be and who they should be and how they have somehow failed in one or more of these areas[126]. As described in Chapter 6, there are many narratives within medicine and society about what it is to be a doctor that maintain schema that do not support a healthier

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[121]   See eg, Sanchez-Reilly S. Morrison LJ. Carey E. Bernacki R. O'Neill L. Kapo J. Periyakoil VS. Thomas JdL. Caring for oneself to care for others: physicians and their self-care. 2013 *Journal of Supportive Oncology*, June, volume 11(1), pages 75-81.

[122]   See eg, Devi S. Doctors in distress. 2011 *The Lancet*, 5 February, volume 377, pages 454-456.

[123]   Schernhammer ES. Colditz GA. Suicide rates among physicians: a Quantitative and Gender Assessment (Meta-Analysis). 2004 *American Journal of Psychiatry*, December, volume 161(12), pages 2295-2302.

[124]   Beyond Blue 2013 - see note 76.

[125]   Christensen JF. Levinson W. Dunn PM. The heart of darkness: The impact of perceived mistakes on Physicians. 1992 *Journal of General Internal Medicine*, July/August, volume 7, pages 424-431: page 430.

[126]   Brown B. *I thought it was just me – Women reclaiming power and courage in a culture of shame*. 2007 Gotham Books, New York: page 19. Brown also produced a TED talk on shame and specifically referred to doctors in the following way: "We heard a brilliant solution to not killing people in surgery[earlier], which is to have a checklist. You can't fix that problem without addressing shame because when they teach those folk how to suture, they also teach them how to stitch their self-worth to being all powerful, and all powerful folk don't need a checklist." At 10.39-11.00 http://youtu.be/psN1DORYYV0?t=10m45s.

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understanding of what it is to be a doctor. Further the intensity of professional education and training discussed in Chapter 5 often results in the absorption of conflicting values (the difference between the overt and the hidden curriculum in medical education) which can give rise to cynicism. Role conflicts arise between the doctor as a caring, empathic, self-effacing, beneficent helper idealised in their training and the business focussed, detached, impatient and arrogant doctor that is often modelled where their professional apprenticeship is served. Whatever has influenced and shaped an individual's Doctor Identity, the impact of causing harm to a patient can be emotionally devastating.

When a doctor's actions cause harm to a patient, especially if it results in death, it can result in long term psychological effects, because the event is traumatic both professionally and personally. There is much that can be done to assist a doctor in these circumstances, so that the impact does not cause pathology, but this can only occur if the harm is recognised and assistance put in place to support the doctor through the process.[127]

E. Doctors and Fatigue: A case study in the practical consequences of unrealistic self-belief

1. Sleep and sleep deprivation

Before discussing doctors' approach to sleep and fatigue, some basic information about sleep and the current scientific understanding of sleep is needed. While the depth of understanding about sleep and fatigue has increased over the past three decades, much of the information discussed here has been known and considered in the context of medicine since the early1980s[128]. Though the biological reasons for the human need to sleep are not well understood, sleep is a physiological imperative for human beings, with the normal response to inadequate sleep being sleepiness[129]. Just as thirst drives people to drink and

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[127]   See eg, Herman J. *Trauma and Recovery*. 1997 Basic Books, New York; Yoder C. *The Little Book of Trauma Healing*. 2005 Good Books, Intercourse (Pennsylvania USA). This later book discusses Ongoing, and Structurally induced trauma, that arises from living under unsafe conditions that are long term and continuous, where there is a constant threat.

[128]   See eg, Asken MJ. Raham DC. Resident performance and sleep deprivation. 1983 *Journal of Medical Education*. May, volume 58(5), pages 382-388.

[129]   Saper CB. Cano G. Scammell TE. Homeostatic, Circadian and Emotional Regulation of Sleep. 2005 *Journal of Comparative Neurology*, volume 493, pages 92-98: at page 96

hunger leads people to eat, sleepiness alerts someone that their body needs sleep. It is possible to continue to stay awake when sleepy, but if the body remains deprived of sleep, then the brain can take charge to ensure the need for sleep is met (the homeostatic sleep drive)[130].

> Eventually, when deprived of sleep (acutely or chronically) the human brain can spontaneously, in an uncontrolled fashion, shift from wakefulness to sleep in order to meet its physiological need for sleep. The sleepier the person, the more rapid and frequent are these intrusions of sleep into wakefulness. These spontaneous sleep episodes can be very short (ie microsleeps lasting only seconds) or extended (ie lasting minutes). At the onset of sleep, an individual disengages perceptually from the external environment, becoming unresponsive to outside information. Therefore, even a micro-sleep can be associated with a significant performance lapse, when an individual does not receive or respond to external information. With sleep loss, these uncontrolled sleep episodes can occur while standing, operating machinery and even in situation that would put an individual at risk, such as driving a car.[131]

Alertness and sleepiness occur within a regular pattern called the circadian rhythm. The circadian cycle affects many biological systems, not just sleep and alertness cycles. It is managed by cells in the brain collectively called the "endogenous circadian pacemaker" which operates through the suprachiasmatic nuclei (SCN) of the anterior hypothalmus[132]. These cells respond, among other things, to ambient light. While there are some individual variations in the amount of sleep required, these natural patterns are embedded in our humanness. There is no evidence that people who choose to become doctors have any greater resilience to sleep deprivation or that people whose genetic make-up means they need less sleep are over-represented in the ranks of doctors.[133]

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[130]   Dinges DF. Sleep Deprivation, Fatigue and Effects on Performance – the Science and its implications for resident duty hours. Paper presented at the *American College for Graduate Medical Education (ACGME) Annual Educational Conference,* 6-7 March 2003, Chicago Illinois.

[131]   Rosekind MR. Co EL. Johnson JM. Smith RM. Weldon KJ. Miller DL. Gregory KB. Gander PH. Lebacqz JV. Alertness Management in Long-Haul Flight Operations. *Proceedings of the 39th Annual Corporate Aviation Safety Seminar*. 1994 Flight Safety Foundation, St Louis, Missouri, pages 167-178.

[132]   Hastings M. The brain, circadian rhythms and clock genes. 1998 *British Medical Journal*, 19-26 December, volume 317, pages 1704-1707: at page 1704.

[133]   Czeisler CA. Medical and genetic differences in the adverse impact of sleep loss on performance: ethical considerations for the medical professions. 2009 *Transactions of the American Clinical and Climatological Association*, volume 120, pages 249-285: at pages 249-250 and generally.

The circadian rhythm leads to two periods of natural sleepiness in humans - between approximately 2-7am and, to a lesser extent, 2-5pm. This pattern occurs whether or not someone has slept[134], but the sleepiness is increased if someone has had insufficient sleep, either acutely following a long period of wakefulness, or where there is a pattern of sleep debt, such as when each night's sleep is insufficient over time. Sleepiness can also be affected by activities, which impact on circadian rhythms, like night shifts or jet lag, or if the sleep someone has had has been disrupted. These interruptions may be work-related, such as when someone is on call and gets called out in their sleeping time, or not work-related, such as if someone in the household is sick or wakeful or neighbours have a noisy party. Dinges listed some of the neuro-behavioural effects of sleep loss as follows[135]:

- Voluntary and involuntary sleep latencies shorten (ie the time it takes to fall asleep intentionally or accidentally reduces);
- Microsleeps intrude into wakefulness (state instability);
- Behavioural lapsing (errors of omission);
- False responses (errors of commission);
- Time-on-task decrements (fatigue);
- Cognitive speed/accuracy trade-off;
- Learning and recall deficits;
- Working memory and related executive functions decline.

Even a sleep deficit as small as 1 or 2 hours can "exaggerate the tendency for error during the time zones of vulnerability"[136]. NASA research has also shown that "regardless of training, professionalism, or having the "right stuff", extreme sleepiness can precipitate uncontrolled and spontaneous sleep".[137] The impact of inadequate sleep on risk of error in

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[134]   Mitler MM. Carskadon MA. Czeisler CA. Dement WC. Dinges DF. Graeber RC. Catastrophes, Sleep, and Public Policy: Consensus Report. 1988 *Sleep*; volume 11 (1), pages 100-109: at page 101.

[135]   Dinges 2003 – see note 130: slide 25.

[136]   Mitler et al. 1988 – see note 134: at page 107. See also: Rosekind MR, Gander PH. Managing fatigue in operational settings1: Physiological considerations and countermeasures. 1996 *Behavioral Medicine*; volume 21(4) Winter; pages 157-168; section headed Sleepiness affects waking performance, vigilance and mood.

[137]   Hayward B. Pilot fatigue and the limits of endurance. 1999 *Flight Safety Australia*; volume April; pages 36-39; at page 39, commenting on research reported in Rosekind MR. Graeber RC. Dinges DF. Connell LJ. Rountree MS. Spinweber CL. Gillen KA. *Crew Factors in Flight Operations IX: Effects of Planned cockpit rest on crew performance and alertness in long-haul operations*. NASA Technical Memorandum 108839; July 1994 NASA, California.

health care was confirmed by the Institute of Medicine (IOM) in the United States in its 2008 Report *Resident Duty Hours – Enhancing sleep, supervision and safety*.[138] The IOM Report analysed all of the scientific literature on the impact of fatigue on the frequency of error and cognitive impairment both in doctors and people more generally, and concluded that poor sleep in medical trainees and in medical practitioners created a significantly increased risk of harm to patients, even where the clinician did not "feel" sleepy.[139]

2. Fatigue and performance deficit

Fatigue and the risks from its impact can be very insidious. As was the case with some of the doctors noted in the IOM Report above, sometimes people will subjectively feel alert, because the environment is stimulating or because they have been physically active, but they will still be physiologically sleepy[140]. If the need for sleep remains unmet and is aggravated by physical or cognitive demands or psychological exhaustion, then fatigue follows[141]. The potential for error related to sleep debt is further exacerbated by stressful working conditions. Because people may be unaware they are fatigued (or of their level of fatigue) or of the limitations the fatigue they are feeling can have on their performance, the negative impacts on performance may go unnoticed by the person until something catastrophic occurs.

However, the negative impacts on performance are well documented. In the aviation field, degradation of skills and capacities by fatigue has been noted in the following areas:

- Muscular strength and coordination;
- Vision and perception;
- Memory;

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[138] Institute of Medicine. *Resident duty hours: enhancing sleep, supervision and safety.* Prepared by the Committee on Optimizing Graduate Medical Training (Resident) Hours and Work Schedules to Improve Patient Safety. Ulmer C. Miller Wolman D. Johns M. (editors) 2009 National Academy Press, Washington DC: pages 188-205.

[139] Institute of Medicine 2009 – see note 138: page 234.

[140] Rosekind MR. Gander PH. Managing fatigue in operational settings 1: Physiological considerations and countermeasures. 1996 *Behavioral Medicine*; volume 21(4) Winter; pages 157-168: section headed physiological versus subjective sleepiness.

[141] Dinges 2003 – see note 130: slide 7.

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- Performance monitoring;

- Error management;

- Decision making;

- Motivation and attitudes;

- Communication; and

- Ability to cooperate.[142]

The impact of these performance deficits can be compared to those caused by drinking alcohol. For example, Dawson and Reid in *Nature* found the impact of fatigue from 17 hours of sustained wakefulness on cognitive psychomotor performance equivalent to 0.05% blood alcohol concentration (BAC). Further, 24 hours of wakefulness produced a performance deficit equivalent to 0.10% BAC[143]. It would neither be ethically or legally permissible for a doctor with either of these blood-alcohol levels to treat a patient. Yet in many hospitals, both in Australia and overseas, doctors who have had these and longer periods of wakefulness are treating patients. The risks associated with these long periods of wakefulness are often compounded when the doctors are inexperienced, and so even more stressed.

The scientific evidence for the risk to patient safety and preventable harm to patients from doctors working when fatigued is unambiguous. The important conclusions from the sleep research to date are:

- If a human being gets inadequate sleep, they will incur a sleep debt, which will result in performance limitations in many areas and will run the risk of spontaneous sleep occurring;

- Working in a stimulating environment or being busy does not stop the sleep debt arising – and neither training nor "will" can prevent the negative performance consequences of sleep debt and fatigue.

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[142]   Hayward 1999 – see note137: at page 38.

[143]   Dawson D. Reid K. Fatigue, alcohol and performance impairment. 1997 *Nature*, volume 388, 17 July, page 235.

While there is some variation in the sleep required by humans with age and individual genetic variation, studies show this is normally between 7.5 and 9 hours: approximately 1 hour of sleep for each 2 hours of wakefulness[144].

3.   Medicine, sleep and patient safety

Much of this information has been known for a long time, but it is only within the last decade that this knowledge has started to have any impact on the practice of medicine and its training methods. As noted above, professional culture can have both positive and negative effects. Helmreich and Merritt's work on doctors and pilots show that in both cases, one of the negative impacts of their cultures is a sense of invulnerability, and the integration of this sense into their self-concept[145]. For many years, doctors saw the capacity to work for very long hours without seeming to become fatigued as a quintessential quality for a doctor. The folk history of medicine contains hero stories of doctors who worked impossibly long hours – this one is of a doctor, Lewis Thomas, whose internship occurred in 1937 at the Harvard Medical Service at Boston City Hospital.

> No job I've ever held since graduating from medical school was as rewarding as my internship. Rewarding may be the wrong word for it, for the salary was no money at all. A bedroom, board, and the laundering of one's white uniform were provided by the hospital; the hours of work were all day every day, and on call for admissions and emergencies every other night all night long. There was no such thing as a weekend. The hours were real working hours; when the night came especially in the winter months, the intern was even more on the run than during the daytime shift. [146]

The imposition of these very long hours on young doctors were seen as one of the "rites of passage"[147] to be a doctor.

> Many doctors have a self-image which incorporates the capacity to stay alert and make good decisions even after very long hours of work. Stories abound of people working for 36 hours straight, and operating for 18 hours at one go. There is almost

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[144]   Dement W. Vaughan C. *The Promise of Sleep*. 2000 Dell Publishing, New York

[145]   Helmreich et al. – see note 30 1998 Ashgate, Aldershot (UK):

[146]   Thomas L. *The Youngest Science – Notes of a Medicine Watcher*. 1995 Penguin Books, New York: pages 36-37.

[147]   Nocera A. Strange Khursandi D. Doctors' working hours: can the medical profession afford to let the courts decide what is reasonable? 1998 Medical Journal of Australia, volume 168, pages 616-618: at page 616

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a view amongst some practitioners that showing physical tiredness is a sign of weakness - a sign that you "really aren't cut out to be a doctor".[148]

While limitations on resident working hours in some jurisdictions have heeded the science of sleep[149], others like those imposed in the United States, seem to reinforce the notion that doctors are more impervious to the effects of fatigue than other humans. For example, the United States Accreditation Council for Graduate Medical Education (ACGME) introduced limitations on resident working hours in 2003[150]. These were 80 hours a week averaged over 4 weeks with a 24-hour limit on continuous duty, with provision for an additional 6 hours for "continuity of care" and "education" (this allowed for 30 hour shifts)[151]. The 2011 ACGME standards[152], which commenced in July 2011, reduced the number of hours

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[148]   Review of Professional Indemnity Arrangements for Health Care Professional. *Compensation and Professional Indemnity in Health Care – Final Report.* November 1995 Australian Government Publishing Service, Canberra (PIR Final Report): para 5.23, page 93 – this extract relates the evidence given by Dr Drew Dawson to the South Australian Industrial Commission, recorded in an article by Van Santen J. Van Santen J. Trainee docs work dangerously long hours. 1994 *Medical Observer* 28 October: page 1, where Dr Dawson states that for some senior medical administrators the issue was an emotional one rather than an economic one. "People feel you have to work these hours to become a real doctor. They think because they did it in their day, so should the new generation of trainee doctors.": page 2.

[149]   See eg, the Council of Europe's European Work Time Directive 2003/88/EC, which sought to limit working hours for all workers to 48 hours per week including overtime and a minimum rest period of 11 consecutive hours per 24 hours. 8 years after the directive becoming law, there were a significant number of jurisdictions which sought extended "transitional" provisions to accommodate the working hours of doctors in training, while working towards these limits. See eg, Commission Opinion 2009/C 245/01, in the Official Journal of the European Union, in relation to the UK. The limits applied to UK junior doctors from August 2009. Transitional arrangements in the end were extended to a maximum of 2012. For discussion of the various positions, around the world, see Temple J. Resident duty hours around the globe: where are we now? 2014 *BMC Medical Education*, Supplement, pages S1- S8. Available at http://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-14-S1-S8

[150]   On October 4, 2002, the Occupational Safety and Health Administration (OSHA) rejected a 2001 petition by Public Citizen and other organizations, requesting federal regulatory intervention in the area of resident duty hours. OSHA cited the ACGME's then proposed duty hours standards and the likelihood of better enforcement processes through revocation of accreditation of residency programs. A similar petition lodged in 2010 appears to have preceded the revisions to the Standards which are to commence in July 2011.

[151]   The original hours were based on limitations introduced in New York State by legislation (Code 405 in 1989), following the recommendations of the Bell Commission, which was established to look into the death of Libby Zion in 1984. This case involved an 18 year old young woman admitted to New York Hospital's Emergency Department, but who died 7 hours later. The residency arrangements of the time, including long hours of work and poor supervision, were strongly criticised in the inquiry.

[152]   Copies of the 2003 and 2011 standards can be found at http://www.acgme.org/acWebsite/dutyHours/dh_index.asp : accessed 17 May 2011

on duty for first year residents to 16 hours. After first year, the hours remain at 24 hours of continuous duty. To address the risks associated with fatigue which were expected to arise with such arrangements, the standard notes that residents were to be "encouraged to use alertness management strategies", including "strategic napping after 16 hours of continuous duty and between the hours of 10pm-8am". In both standards, there is provision for longer periods than the 80 hours, where necessary for "a sound educational rationale"![153] Both standards appear to ignore the evidence that 24 hours without sleep has an impact on human performance equivalent to a blood alcohol concentration of 0.1 or twice the Australian limit for a drink-driving offence.

The new draft standards of the ACGME[154] which were released for discussion in October 2016 and closed for comment on 19 December 2016, take back the gains of 2011 and revert to 80-hour working weeks (averaged over a month) and 24-hour shifts for interns and all College training programs regulated by them. There is a minor reduction for the period allowed in excess of 24 hours – down from 6 hours in 2003 to 4 in 2016 – leaving the capacity for regular approved shifts of 28 hours, to allow interns to "fit better" with other residents and staff. The push for these proposals apparently came mainly from medical specialty colleges.[155]

The existing and draft ACGME standards ignore findings from the Institute of Medicine's 2008 Report[156]. The Report itself prevaricates between an acknowledgement of the scientific evidence that sleep deprivation causes safety concerns, and an apparent desire to

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[153]   A useful comparison of the two standards can be downloaded from the Accreditation Council for Graduate Medical Education (ACGME)'s website at: http://www.acgme.org/acWebsite/dutyHours/dh-ComparisonTable2003v2011.pdf

[154]   The draft standards are available as a "tracked changes" document on the ACGME. http://www.acgme.org/Portals/0/PFAssets/ReviewandComment/CPR_SectionVI_ChangesTracked.pdf Interestingly, the reference to Duty Hours has been removed as a title and it has been substituted with a heading "Clinical Experience and Education": http://www.acgme.org/What-We-Do/Accreditation/Clinical-Experience-and-Education-formerly-Duty-Hours . This is also reflected in the tracked changes – with focus being on the "Learning and Work Environment" rather than on "Duty hours".

[155]   Steka BS. Overworked, underslept and the politics of resident shift hours – new proposals reignite an old dispute. 30 November 2016 *Medscape*. At: http://www.medscape.com/viewarticle/872349

[156]   Institute of Medicine 2009 – see note 138: page 163 and pages 5-6.

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placate the hospital and medical training establishment by saying 30 hour shifts are still allowed, but there must be a protected period of sleep of 5 hours after 16 hours of wakefulness.[157]

In Australia, the issue of fatigue in medicine also started with junior doctors, with the Australian Medical Association conducting a risk assessment of junior doctor rosters, which was published in 2001. This showed a range of practices which would be expected to lead to fatigue, including long shifts, long continuous periods of work and few days off. It also demonstrated consistent patterns of these poor practices over time[158], which would be expected to lead to cumulative sleep deficit that amplifies the effects of immediate fatigue. Some of these data are summarised in

Table 4.1. The professional sub-groups which had the highest representation in the significant and higher risk categories were Surgery (51% and 35% respectively); Medicine/Physicians (65% and 21% respectively); and Obstetrics and Gynaecology (52% and 41% respectively), with almost 80% of respondents overall being in these risk categories.[159]

Table 4.1: Australian Medical Association Junior Doctor Roster Audit 2001

N=417 doctors

Risk Category	All respondents in risk category %	Registrars (36% N) %	Interns & RMOs (56%N) %	Hours per audit week- range in hours [average]	Longest periods of continuous work in hours [average]
Lower	22	25	20	10-74 [45]	5-21 [11]
Significant	54	48	56	34-86 [60]	5-24 [13]
Higher	24	27	23	45-106 [79]	7-63 [16]

Source: Australian Medical Association. *Risk Assessment of Junior Doctor Rosters*. July 2001

Following this, in 2003 the Australian Medical Association and the Australian Healthcare Association issued a *Best Practice Rostering: Training and Resource Kit* to assist hospitals

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[157]   Institute of Medicine 2009 – see note 138: see eg, discussion on pages 5-6 of the risks, and compare this to the recommendations summarised on page 13, Table S1.

[158]   Australian Medical Association (AMA). *Risk Assessment of Junior Doctor Rosters*. July 2001 AMA, Canberra.

[159]   AMA July 2001 – see note 158: Table V, page 5.

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in addressing what it described as the risks for hospitals and their patients from excessive levels of doctor fatigue. In the foreword to that kit, the two Presidents noted that:

> Historically, long working hours have been viewed as part of the medical culture and perhaps even a "rite of passage" for young doctors. Staff shortages can play a significant part, as can the desire by staff for increased remuneration. A contributing factor in many cases is staff rostering practices that are based on an incomplete understanding of the range of factors that can lead to excessive fatigue and increased risk of error.[160]

Despite the promotion of the issue and emphasis on the need to act for patient safety and doctor well-being, the movement to safer hours for trainees was generally leisurely and inconsistent. In 2006, the Australian Medical Association conducted a similar survey of employed doctors – of the 573 respondents, 39% were Interns or Residents, 53% were Registrars and 8% were consultants or career medical officers[161]. While there were fewer doctors in the higher and significant risk categories in this survey, 62% overall still fell into these groups. Emergency medicine had shown the greatest improvement, with a decline from 59% in these risk categories in 2001 to 29% in 2006. Except for surgery, most other specialties had shown a decrease in the proportion of doctors in the highest risk categories, but only anaesthetics and Emergency medicine had a majority of doctors in the lower risk categories. Surgery had more than twice the average proportion of doctors in the top risk category[162]. So far as hours of work are concerned, of the 17% of doctors in the top risk category, the median hours worked in the survey week was 79 hours, with a range of 50-113 hours. The longest single period of continuous work was 39 hours in this group, with the median being 15 hours. The AMA report noted that:

> While the longest continuous shift in the 2006 survey was 39 hours, it is well down on the 63 hours recorded in 2001, but a serious concern nevertheless. There was also a reduction in the longest continuous period of work for the lower risk category (down from 21 hours).[163]

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160   Australian Medical Association (AMA) and the Australian Healthcare Association (AHA). *Best Practice Rostering: Training and Resource Kit – Practical Tools for Rostering Doctors. A joint initiative of the Australian Medical Association and Australian Healthcare Association.* July 2003 AMA and AHA, Canberra: Foreword.

161   Australian Medical Association (AMA). *Safe Hours = Safe Patients. AMA Safe Hours Audit 2006.* October 2006. AMA, Canberra: page 7.

162   AMA 2006 – see note 161: Table 4, page 9.

163   AMA 2006 – see note 161:: page 10. A more recent survey has been undertaken by the AMA, but this survey looked at the health and well-being of junior doctors more generally, and the data available on hours worked was not comparable: Australian Medical Association (AMA). *AMA*

The Australian Medical Association conducted another survey in 2011[164], covering 1,486 junior and salaried doctors, which showed a modest improvement from 2006, with 53% of doctors in the higher and significant risk categories (compared to 62% in 2006). However, other data showed worse results, with the longest shift being 43 hours and the maximum numbers of hours worked in the audit week increasing to 120 hours. Even doctors in the lower risk categories were working shifts up to 19 hours, and 77% in the surgery discipline were in the significant and higher risk categories[165]. The AMA conducted another similar audit in October 2016, but the data is not yet available.

The Royal Australasian College of Surgeons developed its own Standards for Safe Working Hours, which were introduced in 2007. The maximum hours per week under these standards for Trainees is 70 hours per week, with maximum day shifts of 14 hours and 12 hours for night shift, and the opportunity for 8 hours of sleep in every 24 hours.[166] However, these do not apply to surgeons who have completed their training. The differences between these standards and those of the AMA are justified on the claim that surgeons' practices "encompass a large number of responsibilities and activities that often differ from those of a hospital doctor"[167]. It is unclear why this means hours of practice can be safely longer for surgeons.

In 2010 study[168] looking at Australasian surgery trainees and their working hours, it appeared that 86% of trainees worked longer than 12 hour days (median 15 hours). 13% worked more than 70 hours per week and 5% worked more than 80 hours per week. In

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Survey Report on Junior Doctor Health and Well-being. October 2008 AMA, Canberra: see page 15. A new survey is to be undertaken in 2016-17.

[164]   Australian Medical Association (AMA). *AMA Safe hours audit 2011 - Managing the risk of fatigue in the medical workforce. Audit Analysis*. July 2012 AMA, Canberra.

[165]   AMA 2012 – see note 164, Table 4, pages 12-13.

[166]   Royal Australasian College of Surgeons (RACS). *Standards for Safe Working Hours and Conditions for Fellows, Surgical Trainees and International Medical Graduates*. December 2007 RACS, Melbourne: page 13.

[167]   RACS 2007 – see note 166: page 6.

[168]   O'Grady G. Loveday B. Harper S. Adams B. Civil I. Peters M. Working hours and roster structures of surgical trainees in Australia and New Zealand. 2010 *ANZ Journal of Surgery,* volume 80, pages 890-895: at pages 891 and 894.

Australia, where there is no statutory regulation of trainee conditions as there is in New Zealand, there were frequent on-call but off-site duty cycles, where the median period of uninterrupted sleep was only 3-5 hours. In addition to these hours, it appeared that trainees also spent an average of 10.6 hours on study or research.

Of real concern when reading these studies is that even the measures chosen as indicators for potential doctor fatigue appear to be based on an implicit denial of the human need for sufficient sleep to have safe performance. The normalisation of extended work hours that are clearly likely to be putting patient safety at risk is demonstrated by the reporting of the "achievement" that only 50% of all doctors are now working longer than 15 hour shifts. This records only shift length, not hours awake, for example travelling to work, eating, showering, and other ordinary activities of daily living. With a 15-hour shift, it is highly likely that a doctor will have been awake for at least 17 hours with the probability of significantly impaired performance. Looking from such a perspective, this "favourable achievement" approach would appear to emphasise the level of denial of impact.

At the Government level, doctor fatigue was first raised in the Final Report of the Professional Indemnity Review in 1996, but little was done for the next 7 years[169]. In 2003, the issues were again put on the patient safety agenda by the Australian Council for Safety and Quality in Health Care's *Safe Staffing Discussion Paper,* released in July 2003[170]. It is salutary to note that despite the overwhelming evidence of the human reality of fatigue and its negative effects on performance, the *Safe Staffing Consultation Report* in March 2005 noted that:

> [T]ere was much debate about what fatigue is and the difficulties with measuring an individual's level of fatigue. There was also a variety of opinions on the effect of fatigue and the ability of medical staff to function at different levels of fatigue. Some, although a minority, were not accepting of the evidence presented in the paper of the physical effects of fatigue on medical staff. … Most felt that health professionals were aware of fatigue and the surrounding safety issues but that it simply was not a priority in management of work practices at present, it is "not on the agenda". There was general agreement that there is currently no formal process

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[169]   PIR Final Report – see note 148: paras 5.22-5.28, pages 92-93.

[170]   Australian Council for Safety and Quality in Health Care. *Safe Staffing: Discussion Paper*. July 2003.

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to identify and manage fatigue and that the culture of the health profession meant that individuals would not act even if they knew they were fatigued.[171]

In Australia, there remain no formal controls on the hours worked by doctors in the private sector, or doctors who work in many hospitals or other settings. At an ethical level, the need to address fatigue has been included in several places in the 2009 National Code of Conduct for medical practitioners. For example, chapter 9 "Ensuring doctors' health", clause 9.2.5 of the Australian Medical Council's Code of Conduct[172], refers to the need for doctors to recognise "the impact of fatigue on your health and your ability to care for patients, and endeavour … to work safe hours wherever possible". It also imposes an obligation in clause 9.3.4 on doctors to recognise "the impact of fatigue on the health of colleagues, including those under your supervision, and facilitating safe working hours wherever possible". In the chapter on minimising risk, clause 6.3.2 states that good medical practice involves "recognising and taking steps to minimise the risks of fatigue, including complying with relevant state and territory occupational health and safety legislation".

4.   Denial of fatigue and its effects

Given the widespread evidence about fatigue, it is striking that doctors and other health professionals appear to discount its application to themselves and their industry. Helmreich and Merritt noted that 60% of doctors (compared to around 30% of pilots) believed they performed effectively when fatigued. Health professionals appear to have very mixed views about fatigue. They recognise that fatigue exists and is a problem. However, they appear unable or reluctant to see that fatigue puts patients at risk of harm of poor performance. The risk of such an attitude is that it puts professional face-saving, inflated self-perception and the need or desire to comply with organisational imperatives that lead to fatigue, ahead of the health professional's duty to protect their patients.

This complex dichotomy is also consistent with research that shows that once something is integrated into the self-concept (in this case that doctors are not effected by fatigue like

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[171]   Australian Council for Safety and Quality in Health Care. *Safe Staffing Consultation Report*. March 2005: pages 19-20.

[172]   Australian Medical Council. *Good Medical Practice: A Code of Conduct for Doctors in Australia.* Developed by a working party of the Australian Medical Council on behalf of the Medical Boards of the Australian states and territories. July 2009 AMC, Canberra.

"everyone else"), people seek to maintain that self-concept against other potentially conflicting evidence.[173] As Helmreich and Merritt conclude: "The resistance of self-concepts to disconfirming evidence can explain why attitudes about personal limitations seem to fall on deaf ears and why change proceeds at a slow pace."[174]

An idealised but misguided medical self-concept is reflected in strong beliefs that their performance is not affected by fatigue and this forms part of the Doctor Identity. For example, in the work of Helmreich and Merritt, both doctors and pilots showed a "sense of personal competence and a denial of human weakness, specifically to the ubiquitous effects of stress, with more than 30% of pilots and 60% of doctors believing that they "performed effectively when fatigued". The depth and the influence of the myth that being a doctor (or even trainee doctor) somehow transcends human fatigue is deeply ingrained in medical culture, and the fact that the hours which young doctors can work are well beyond any other safe working-hours standards in any other industry is further evidence of this.

In a submission[175] to the US Occupational Safety and Health Administration about the length of doctor working hours, the submitters drew on a chilling extract from an intern's diary, which shows the depth of negative impact that fatigue can have on a doctor's capacity to provide good quality, compassionate healthcare:

> One of the strongest arguments for reducing resident physician work hours is an ethical one: overwork interferes with the development of professional values and attitudes that are an essential part of being a physician.126 Fatigue can cultivate anger, resentment, and bitterness — often directed at the patient — rather than kindness, compassion, or empathy. As was evident from many of the studies on

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[173]   Swann W. Hill C. When our identities are mistaken: reaffirming self-conceptions through social interaction. 1982 *Journal of Personality and Social Psychology*, volume 43(1), pages 59-66; Swann W. Chang-Schneider C. Larsen McClarty K. Do people's self-views matter? Self-concept and self-esteem in everyday life. 2007 *American Psychologist*, February-March, volume 62 (2), pages 84-94.

[174]   Helmreich et al. 1998 – see note 30: page 33.

[175]   This submission was forwarded from a group of concerned citizens and medical doctors: Public Citizen, a consumer and health advocacy group with 150,000 members and supporters; the Committee of Interns and Residents/SEIU Healthcare (CIR/SEIU), a housestaff union, part of SEIU, representing over 13,000 resident physicians; the American Medical Student Association (AMSA), a national organization representing over 33,000 physicians-in-training; Bertrand Bell, M.D., Professor of Medicine at Albert Einstein College of Medicine and author of New York State Health Code 405 restricting resident physician work hours; Charles A. Czeisler, Ph.D., M.D., Baldino Professor of Sleep Medicine, Harvard Medical School; and Christopher P. Landrigan, M.D., M.P.H., Assistant Professor of Pediatrics and Medicine, Harvard Medical School.

negative mood and its relationship to long work hours, this attitude is promoted when meeting a patient's needs becomes incompatible with meeting a resident physician's own needs. The following entry from a resident physician's diary illustrates the types of feelings engendered by typical resident physician work schedules:

> 1AM and I'm ready to go to bed: one should never be ready to go to bed in the ICU [Intensive Care Unit] — you'll always be disappointed. Anyway, I'm on my way to the EW [Emergency Ward] … when there's a code [cardiac arrest]. Get up there and find [a resident physician] trying to intubate a lifetime asthmatic who is as blue as this ink. I keep thinking — he's blue enough to go to the ICU. I keep hoping he's going to be too blue to go anywhere. Probably a nice man with a loving wife and concerned children, but I don't want that SOB to make it because I've got one special who is going to keep me up 2 more hours. I don't need an intubated, blue, pneumothoraxed SOB coming to my unit… I don't want the asthmatic SOB to live if it means I don't sleep. I don't want the special to live if it means I don't sleep. I just want sleep.

This extract formed part of an article on the nature of medical internship as moral education, published in 1987[176], when hours of work were even longer. The author reflects on his own experiences and those of his fellow interns at a major urban teaching hospital in the United States and it provides salutary reading as an example of negative conditioning. Hobson, a sleep deprivation specialist, said in 1969:

> There never was a good reason to indulge in the false heroism of 36-hour duty stints by the interns. We now appreciate excellent reasons for abandoning this practice.[177]

More than 40 years later, there are continuing debates about the impact of sleep deprivation on doctors. These debates show the resilience of the false myth that doctors, alone among humans, have less need for sleep and do not suffer the fatigue performance deficit experienced by other humans. Like the deceptive ideal of perfect performance, these false ideals create mistaken beliefs of what it is to be a good doctor. These, in turn, reduce the opportunity for honestly looking at risks and limitations to create safer care for patients.

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[176]   Groopman LC. Medical internship as moral education: an essay on the system of training physicians. 1987 *Culture, Medicine and Psychiatry*, volume 11, pages 207-227.

[177]   Hobson JA. Sleep: Physiologic aspects. 1969 *New England Journal of Medicine*, 11 December, volume 281(4), pages 1343-1345.

They also reduce critical attention to better working conditions and more satisfying and safe care relationships for doctors.

In some ways, the illusion is even harder to tackle when unsafe hours are misguidedly said to be for patient safety reasons. For example, in the 2016 re-draft of the US Accreditation Council for Medical Education working hours standards [178], the maximum shift hours are proposed to increase to 24 hours with an optional increase of 4 hours (making the total hours 28) if these hours are used "for activities related to patient safety such as ensuring effective transitions of care, and/or resident education". [179] Given the known risks to patient safety and doctor well-being from such excessive hours and the evidence that learning is impeded by fatigue, these statements show either transparent cynicism, reckless disregard for patients and doctors, or strong continuing evidence of mistaken beliefs about fatigue and doctor performance.

The next two chapters look at how the Doctor Identity, which underpins these myths and delusional beliefs, is created and maintained and why it is not easily changed.

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[178]   The need to disguise the practices which can compromise patient safety and doctor well-being is indicated by a shift in the title in the 2016 draft standards from Duty Hours to Clinical Experience and Education: see http://www.acgme.org/What-We-Do/Accreditation/Clinical-Experience-and-Education-formerly-Duty-Hours, sighted 25 December 2016.

[179]   ACGME Common Program Requirements – Proposed Major Revision, page 17, lines 574-579 and lines 586-594:, see http://www.acgme.org/Portals/0/PFAssets/ReviewandComment/CPR_SectionVI_ChangesTracked.pdf , sighted 25 December 2016.

Chapter 5: Formation of the Doctor Identity

A.   Introduction

This chapter focuses on the formation of a Doctor's professional and personal identity, because it is this identity which appears to respond to error and patient harm as a threat, as set out in the first hypothesis of the thesis. Understanding its process of formation may enable the development of different strategies to improve the recognition of patient harm and its prevention.

The chapter commences with a brief explanation of identity formation and conflicts that can arise between different aspects of identity. It then looks at those people who choose to train to be a doctor and their backgrounds prior to entering medical school. Once in medical school, people enter a deep process of socialisation and professionalisation, which creates their Doctor Identity. Despite developments in medical education theory and a greater awareness of and understanding of the impact of different practices on the well-being of medical students and junior doctors, there remain some pervasive behaviours and patterns of training which negatively affect many students and junior doctors.

This chapter also looks at the psychological impact of the medical education and training processes, including attitudes to error and patient harm that underpin the threat to identity discussed in Chapter 4. This explicit and implicit learning can create long term patterns of thought and action which undermine some of the key social goals of medicine and the safety and quality of care.

B.   Identity formation and identity conflict

Individuated self-identity formation is a long-term process, which reaches a peak in late adolescence and early adulthood[1], the period during which many medical students

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[1]   Meeus W. Iedema J. Helsen M. Vollebergh W. Patterns of adolescent identity development: review of literature and longitudinal analysis. 1999 *Developmental Review*, volume 19, pages 419-461. See also Erikson EH. Erikson JM. *The Life Cycle completed – extended version.* 1998 W. W. Norton and Company, New York: Adolescence and School Age at pages 72-76; Marcia JE. Development and

commence their studies. For example, in 2012, almost 38% of commencing medical students in Australia were less than 20 years old, and 44% were between 20-24[2]. Rather than being a single monolithic psychological structure, a person's identity usually consists of several different parts, and over someone's life time, these parts can change[3]. A person's identity includes their own conception of their personal characteristics, such appearance, gender, race and sexual orientation. It may include social and relational roles, such as being a parent, being the first child in a family, being married or in a sexual relationship, being a friend, attending a church, and participating in certain hobbies or activities. It may include identities related to beliefs, such as spiritual or political views. These different aspects of identity are sometimes called self-schemas[4].

Most people develop an occupational component to their identity as they finish school or during vocational training. The strong personal identification with occupation has traditionally been associated with the professions. The sociologist Freidson expresses it thus:

> With their material interests secured by their control over their work and their protected position in the market place, members of professions can develop a deep life-long commitment to and identification with, their work.[5]

In fact, the identification with and commitment to an occupation is not limited to traditional professions. For example, someone who has done an apprenticeship is likely to define themselves through their occupational choice, such as "I am a hairdresser", "I am a fitter/machinist". Experience and pride in a job, even where no extended training is required, may also result in a person's occupation forming part of their identity, often

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validation of ego-identity status. 1966 *Journal of Personality and Social Psychology*, volume 3(5), pages 551-558.

2   Medical Schools Outcomes Data base (MSOD) Project Team. *2012 CMSQ [Commencing Medical School Students Questionnaire] National Data Report*. Produced from the Medical Deans of Australia and New Zealand, Medical Schools Outcomes Data base: http://www.medicaldeans.org.au/wp-content/uploads/2012-CMSQ-Report.pdf : Table 3, page 6.

3   See eg, Carter R. *Multiplicity: the new science of personality, identity and the self*. 2008 Little Brown, London.

4   Horowitz MJ. Self-identity theory and research methods. 2012 *Journal of Research Practice*, volume 8(2), Article M14. Retrieved from http://jrp.icaap.org/index.php/jrp/article/view/296/261

5   Friedson E. *Professionalism Reborn – theory, prophecy and policy*. 1994 University of Chicago Press, Chicago: page 175.

expressed as "I am a good labourer", "I am a great salesperson". How any individual sees their occupation in relation to their identity often reflects the meaning and significance they attach to the work. For example, a job may be seen as something being done, while waiting to become something else, such as "I washed cars while I studied to become a writer." Often the difference in significance to an individual is expressed in the words used to describe their connection to the work. For example, someone may see a job as something they "do" or something that they "are": "I sell fruit and vegetables" compared to" I am a green grocer". For most people who become doctors, becoming a doctor is an important occupational identity for them – "I *am* a doctor", rather than simply "I *work* as a doctor".

Most people retain or develop other identities that co-exist with an occupational identity. For example, someone may have identities as a doctor, a wife, a mother, a friend, an athlete, a writer and a gardener of rare orchids. The significance of each identity and its prominence will often vary over time and setting, and can be role specific. In addition, the actual nature of each of these identities is not absolute. They are partly personal (that is, defined by the person's own beliefs and experiences) and partly mediated by the culture and society in which someone lives. For example, the identity and role expectations associated with being a parent often vary between individuals, between socio-economic groups and between genders. Cultural role expectations are often shown through the stereotypes and images commonly depicted for that identity, for example, in stories, advertising and the media. Identities are often developed and exist in a specific relational and interactional context[6].

Different identities can give rise to internal conflicts in a person, particularly as these identities are forming, because role expectations associated with them may be internally inconsistent. For example, a medical career (and medical training) often requires long hours away from family. It often does not provide flexibility for unexpected but predictable events like the illness of a dependent child. These role expectations can create stress between a person's identity as a committed medical professional and their identity as

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[6] The relational and interactional contexts are often given little weight in medical education: Monrouxe LV. Identity, identification and medical education: why should we care? 2010 *Medical Education,* volume 44, pages 40-49: see especially page 44.

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a caring, nurturing parent[7]. Attempts to resolve these specific identity tensions are often evident in medical students' choices about their future medical careers at the end of their medical school training, when many are also contemplating or have commenced family formation. For example, about 5% of Australian medical students finishing in 2012 had children under 16, just under 11% were married, 14% lived with a partner and almost 18% were "in a relationship" though not living with the partner[8]. The impacts and interrelationships between these important and sometimes conflicting identities are also strongly reflected in some of the medical student biographies, particularly when a student commences his or her studies later than average and thus already has already taken on these other identities[9].

To add further complexity, some parts of identity are conscious and some are not. In the language of sociology, the unconscious component of identity is called "habitus"[10]. Summarised by Costello[11], habitus includes:

- An individual's unconscious assumptions about how the world works – their worldview or "weltanschauung";
- An individual's tastes or preferences, which often mark generational, ethnic, class and subcultural identities;

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7   An excellent study which looks at these role conflicts for medical students is: Broadhead RS. *The private lives and professional identity of medical students*. 1983 Transaction Books, New Brunswick (NJ. USA).

8   Carberry A. Dumbrell D. *2012 Medical Students Exit Questionnaire National Data Report*, produced by the Medical Deans of Australia and New Zealand, Medical Schools Outcomes Database and Longitudinal Tracking Project: available at: http://www.medicaldeans.org.au/wp-content/uploads/2012-EQ-Report.pdf , Table 8, page 10 and Table 9, page 11. More recent surveys have used a different tool, collecting less data and focussing more on career intention.

9   See eg, Konner M. *Becoming a doctor – a journey of initiation in medical school.* 1987 Penguin Books, New York. The author was 35 years old, married and had small children when he commenced his medical training. He notes, on page 364, the differences these life events and identities had on his understanding of medicine and the training process. See also LeBaron C. *Gentle Vengeance – an account of the first year at Harvard Medical School.* 1981 Richard Marek Publishers, New York (USA). LeBaron worked for a decade as a social worker in hospitals before he started his studies and experienced the death of both his parents.

10   This term was a central concept in the work of the French sociologist Pierre Bourdieu, who saw habitus as regulating behaviour without obedience to rules – for a full discussion of the concept, see Maton K. Habitus. Chapter 3 in Grenfell M. (editor) *Pierre Bourdieu: Key concepts*. 2012 (2nd edition, Acumen Publishing, Durham (UK), pages 48-64.

11   Costello CY. *Professional Identity Crisis – race, class, gender and success at professional schools*. 2005 Vanderbilt University Press, Nashville (USA): pages 20-24.

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- An individual's embodied identity, which can include their gestures, body language, need for personal space; and

- An individual's emotional identity, including, for example, their natural degree of emotional warmth or coolness.

An individual will often not be aware of these parts of their identity and they can be quite difficult to change. They can give rise to significant stresses, if the requirements of other more conscious identities, such as a new professional identity, are inconsistent with those that are unconsciously based. These conflicts often give rise to "feelings of discomfort, disjuncture or incompetence"[12], but can be difficult to express and deal with because of their source in the parts of identity that are carried sub-consciously or unconsciously.

When different identities are consistent, they can support, complement and reinforce each other. For example, if a medical student believes they are compassionate and caring in their family relationships, they will see that a professional identity which encompasses these same values as a consistent or "consonant" part of their identity. Both identities reinforce the validity of the other. However, identity conflict or dissonance can occur when clashes between the values, worldviews or expected actions of these different identities are not readily reconcilable.[13] Where the student becomes aware of this dissonance and decides to change themselves, this can result in negative impacts on their other affected identities, such as family relationships, where the changes required by the taking on of the professional identity are not positively accepted by others. This in turn creates stress and disruption for the student.[14]

These differences can involve professionally significant issues and the dissonance may be experienced with awareness or unconsciously. For example, a medical trainee may experience anxiety and distress, without a clear understanding of the reasons. This can negatively affect student performance, because "an attempt to escape the forces of professional socialization … endangers their professional success ... because one cannot be

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[12]   Costello 2005 – at note 11: page 136.

[13]   The concept of identity dissonance has been used by others, but the notion of identity dissonance and consonance in relation to professional education is drawn from the work of Costello: Costello 2005 – at note 11:see especially pages 25-28 and Chapter 6.

[14]   Costello 2005 – at note 11: pages 124-163.

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a successful professional without a well-integrated professional identity"[15]. For example, in a study of students in non-medical professional schools, Costello found that those who experienced professional and personal identity dissonance had only a few choices. They could leave their training and not become a professional; they could manage the dissonance they felt; or they could edit the conflicts (either consciously or unconsciously) and embrace the change. Where the change was embraced, the students in Costello's study found a new sense of identity that was empowering. Where the change was not welcomed, the students felt "they were losing themselves", which was described as "disconcerting and unpleasant"[16]. The experiences of medical students and residents losing themselves (or losing touch with who they were) is described often in the literature and research about medical training, because of the depth and intensity of the socialisation process and professional identity formation.[17]

Identities also carry different social values and these can also be context dependent. Where there is a hierarchy of prestige and importance among identities, "physician" generally carries a high social rank.[18] For this and other reasons discussed below, the Doctor Identity often becomes a dominant identity in the medical student, sometimes to the exclusion of other previous identities. The development of the professional identity of a doctor involves a psychological movement away from a point when a person doesn't see himself or herself as a doctor. "Becoming a doctor" in a professional sense occurs over time through the process of learning skills, attitudes, assumptions, definitions and values, so that in the end, the person sees themselves as a doctor, and the society around them recognises them as such[19]. The process then is both a movement away from how the person once was, as well as a movement towards the new professional identity.

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[15]   Costello 2005 – at note 11: page 127.

[16]   Costello 2005 – at note 11: pages 128-9.

[17]   See eg, Duncan DE. Is this any way to train a doctor? Medical residencies: the next healthcare crisis. 1993 *Harper's Magazine.* April, volume 286, issue 1715, pages 61-66: at page 62, where the author describes his wife losing "interest in food, exercise, the kids, me and everything else she loved" to survive her residency.

[18]   Broadhead 1983 – see note 7: pages 39-40.

[19]   Broadhead 1983 – see note 7: page 38.

During that period, a period of significant uncertainty occurs, where the person feels "betwixt and between". They do not see themselves as they were, nor are they yet what they are becoming. At this time, their identity state is probably the most malleable. Many of the elements of medical training contribute and heighten this sense of uncertainty and separation from a previous way of being. This journey of socialisation is very powerful. In these periods of uncertainty, medical students are even more vulnerable to the modelling of those who have already made the transition. At such points of identity confusion when students ask "What would I do, if I really was a doctor?", they readily adopt the behaviours observed by them in other physicians. They manage their professional identity at the outset of training by "acting like other professionals".[20]

This "acting like a doctor" does not initially form part of their identity. Rather, it is a means of reducing their sense of uncertainty about what to do. It is sometimes called a "situated adjustment" to the overwhelming demands of their training process[21]. However, over time, these actions, either consciously or unconsciously, start to form a part of their professional identity[22]. This professional identity can sit beside their other identities, which they bring to their education, and alter their sense of self by addition. In some cases, the new identity can create significant discomfort, particularly where the professionals they observe act differently than both the student's internal preference and what they had expected of that professional.

In some situations, the adoption of the Doctor Identity can be more dramatic. Through a process called by social psychologists "conversion", the new identity substitutes for previous identities, some of which are negated. "Conversion is signalled by a radical re-organisation of identity, meaning and life"[23] and can lead to psychological trauma, maladjustment and the abandonment of other identities and relationships. This can have

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[20]   Broadhead 1983 – see note 7: page 37.

[21]   Broadhead 1983 – see note 7: page 36.

[22]   Beagan BL. Neutralizing differences: producing neutral doctors for (almost) neutral patients. 2000 *Social Science and Medicine*, October, volume 51(8), pages 1253-1256: see especially pages 1259-1260.

[23]   Travisano RV. Alteration and conversion as qualitatively different transformations. Chapter in Stone GP. Faberman HA. (editors) *Social psychology through symbolic interaction*. 2nd edition 1981 Wiley & Sons, New York, pages 237-248o.

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long term impacts on the emotional well-being of those people so affected. Even where the results of socialisation are not so profound, some have described the process of "successful" medical professionalisation as "doctrinal conversion". This is described as "the social psychological process whereby students come to exchange their own lay views and imagery of the profession for those of the profession itself"[24].

For many students, the identity they take on as a doctor may have familiar elements. For example, when the students come from a high socio-economic background, there is no dissonance when this is seen as part of their new professional identity. There is evidence, however, that for other students, the "development of a professional medical identity might entail the adoption of a different world-view, different values and emotional orientations" and this can affect their progress at medical school and create anxiety and stress[25]. The move within medical schools to seek broader inclusion of people, from across the socio-economic, racial and cultural spectrum, appears likely to inadvertently compound this risk. The existing medical education and training system has, over many decades, sought to create homogeneity in those who graduate through a common professional identity (or specialty identity)[26]. When people with more diverse identities are brought into this mix, the chance of professional identity dissonance is likely to increase.[27]

C. Choosing to train to be a doctor

1. Starting early

There is evidence that many recruits to medical school choose their career from an early age and show "an extraordinary degree of personal commitment to this career"[28]. For

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24   David F. Professional socialization as subjective experience: the process of doctrinal conversion among student nurses. Chapter 17 in Becker HS. Geer B. Reisman D. Weiss RS. (editors) *Institutions and the person – Festschrift in Honor of Everett C. Hughes*. 2010 Aldine Transaction, New Brunswick (NJ. USA), pages 235-251: at page 237.

25   Monrouxe 2010 – see note 6.

26   Beagan 2000 – see note 22; see also Shapiro M. *Getting Doctored: Critical reflections on becoming a physician*, 1987 New Society Publishers, Philadelphia: see especially chapter 2.

27   Frost HD. Regehr G. 'I AM a doctor': negotiating the discourses of standardization and diversity in professional identity construction. 2013 *Academic Medicine*, October, volume 88(10), pages 1570-1577.

28   Coombs RH. *Mastering Medicine*. 1978 The Free Press, New York: page 35.

example, in a 2005 study of Brazilian medical students, 40% of them had made the decision to become a doctor before turning 15 years of age, and a further 51.7% chose the option during high school[29]. Auto-biographical stories of young doctors also show this as a common theme, and often it is a powerful driver for those from disadvantaged backgrounds to make extraordinary efforts to become a doctor[30].

The degree of commitment required to get into medical school and the length of time that a medical education takes are considerable. Entrance requires some of the highest academic grades achievable and often various highly competitive admission tests, as discussed in the next section of this Chapter. The costs involved in medical school education may be significant and the hours required mean that many ordinary activities are foregone. This process often commences even before starting formal medical studies. Conclusions from an older American study of medical students, still resonate today and internationally:

> Rather than floundering in search of a meaningful direction, like so many of their youthful peers, these students decided on a medical career at an early age; most have not even entertained the possibility of any other career. Moreover, all have overcome formidable obstacles in gaining admission to medical school, such as competing successfully for the best grades and politicking effectively to impress premedical advisors and medical school admissions committees. And, equally impressive is their demonstrated willingness to shoulder heavy financial burdens and in other ways sacrifice personal pleasures to achieve their goals. Such commonality makes clear that career socialization is well underway before a recruit even gains admission to medical school.[31]

Studies of pre-medical students intending to seek entry to medical school show that students are aware, before they commence medical studies, that the road they are choosing is a difficult one. They express concerns about levels of debt, the compatibility with plans to have a family and the rigours and competitiveness of their current and future academic

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[29]   Millan LR. Azevedo RS. Rossi E. Neves de Marco OL. Millan MPB. Vaz de Arruda PC. What's behind a student's choice to become a doctor? 2005 *Clinics*, volume 60(2), pages 143-150: at page 145. This has been a longstanding pattern – see the 1961 classic: Becker HS. Geer B. Hughes EC. Strauss AL. *Boys in white – Student Culture in medical school*. 2004 (8th printing) Transaction Publishers, New Brunswick (NJ.USA): Table IV, page 77, where 32.3% of sample decided as a child, and 40.3% in high school.

[30]   See eg, Takakuwa KM. Rubashkin N. Herzig KE. *What I learned in medical school – personal stories of young doctors*. 2005 University of California Press, Berkley: page 41-42.

[31]   Coombs 1978 – see note 28: page 35.

studies.[32] The length of time that people have dreamed of becoming a doctor during their early years of identity formation in their adolescence as well as the effort, resources and sacrifices expended to achieve this goal may impact strongly on how extensively their professional identity comes to dominate other identities in their self-perception.

2.   Reasons for wanting to be a doctor

In studies that asked medical students or applicants what motivated them to seek to become a doctor, a range of reasons are given[33]. Some of these are intrinsic motivations, internal to the person, such as an interest in biology or science, a desire for intellectual challenge, wanting to help people, and wanting to be useful. These motivations are signs of genuine interest *within* the person's identity and research shows they are associated with greater chances of success, better application to study and greater well-being[34]. By contrast, external motivators, such as desire for monetary rewards, prestige of the profession or pressure from parents, appear to be less predictive of success and less protective of well-being. Several studies have shown that male students tend to be more motivated by external factors, and female by internal.[35] Where motivations for medical students are intrinsic, it is likely that these characteristics form part of their self- identity. Idealism or altruism appears to have been a common, pre-existing characteristic of those who seek entry into medical school.[36]

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[32]   See eg, Lovecchio K. Dundes L. Premed survival: understanding the culling process in premedical undergraduate education, 2002 *Academic Medicine*. July, volume 77(7), pages 719-724: see especially Table 2, page 721.

[33]   See eg, Millan et al. - see note 29; Barondess JA. Glaser RI. Attitudes toward the medical career: findings from the Alpha Omega Alpha Survey of College and university undergraduates. 1993 *Academic Medicine*, May, volume 68, pages 323-328; McManus IC. Livingston G. Katona C. The attractions of medicine: the generic motivations of medical school applicants in relation to demography, personality and achievement. 2006 *BMC Medical Education,* February, volume 6, pages 11-26: accessed at http://www.biomedcentral.com/1472-6920/6/11 on 18 April 2014; Kusurkar RA. Croiset G. Galindo-Garré F. Cate OT. Motivational profiles of medical students: association with study effort, academic performance and exhaustion. 2013 *BMC Medical Education*, volume 13, page s 87- 95: accessed at http://www.biomedcentral.com/1472-6920/13/87 on 18 April 2014.

[34]   Kusurkar et al. 2013 – see note 33.

[35]   Kusurkar et al. 2013 - see note 33: at page 93; Millan et al. 2005 - see note 29: at page 146.

[36]   See eg, Becker et al. 2004 – see note 29.

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In one study[37], where 60 medical students were interviewed in the first weeks of commencing their studies, they were asked what they saw as the 5 attributes most important for being a doctor. 92% gave personality characteristics such as altruism (54 answers), having a humanitarian attitude (12), being dedicated (9) and being responsible (8). 80% gave professional skill and 60% gave having a good relationship with patients, which was characterised through such actions as being attentive, transmitting confidence, respecting the patient and knowing how to listen. These positive and important attributes for doctors establish a high-performance ideal in the formative development of the student's self-identity and their prospective doctor identity. Combined with the actual academic requirements to get to medical school, the stage is set for both positive and negative perfectionism in their training years.

Some studies also suggest that choosing medicine as a career is attractive for some prospective students, especially males, because it is seen as a "way of life" which encompasses all other aspects of life.[38] In such students, as the Doctor Identity develops, it is more likely to become *their* identity. Such attitudes can mean that the necessary social supports that can protect a doctor from the stresses of medical practice – family, friends, other interests - are harder to establish and maintain. As can be seen later, the intensity of medical school, internship and residency are themselves barriers to maintenance of these relationships and life choices. The capacity to empathise with a range of people from different backgrounds will often be an important skill for doctors. Maintaining a broader understanding of life beyond medicine can be an important professional and life skill that may be under-valued, when becoming a doctor is seen as such a singular calling. An expectation that a medical career would be someone's whole life can also add even more stress to a young person, who seeks to gain entry and then excel at medical school, because failure at any point may go to the core of their identity.

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[37]   Millan et al. 2005 at note 29: at page 146.

[38]   See eg Ewan CE. Bennett MJ. Medicine in prospect – the first-year student's view. 1981 *Medical Education,* volume 15, pages 297-293: at pages 288-289.

3.   Socio-economic background

As well as these personal characteristics, many medical students share a similar socio-economic background. Those who become doctors are more than likely to have grown up in a household with a higher socio-economic status and high educational achievements. Such a background tends to shape the person's initial self-image in a complementary fashion to the power, income and privileges associated with the social status that accompanies "being a doctor" discussed in Chapter 6. The higher socio-economic background of many medical students may also mean that they have greater familial and social connections with other doctors in their early years and have observed the social and economic benefits of being part of the medical profession. This pattern is similar across nations. For example, in a study of Canadian medical school first year students conducted in 2001[39]:

- 43.5% of the medical students came from neighbourhoods with median family incomes in the top quintile;
- 39.0% of fathers and 19.4% of mothers of these students had masters or doctoral degrees (compared to 6.6% male and 3.0% female of the Canadian population aged 45-64 years);
- 69.3% of fathers and 48.7% of mothers were professionals or high level managers (compared to. 12% of Canadian population); and
- 15.6% of the students had a physician parent.

A 2013 General Medical Council study showed a pattern of relative privilege for medical students in the United Kingdom. 65% of medical students came from the top two socio-economic quintiles of the population, with only 6.3% coming from the lowest quintile. 65% of doctors in training had one parent or guardian who attended university and more than 57% attended either private schools or selective state schools[40].

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[39]   Dhalla IA. Kwong JC. Streiner DL. Baddour RE. Waddell AE. Johnson IL. Characteristics of first-year students in Canadian medical schools. 2002 *Canadian Medical Association Journal*, 16 April, volume 166(8), pages 1029-1035

[40]   General Medical Council. *National training survey 2013: socioeconomic status questions*. October 2013. Available at http://www.gmc-uk.org/Report___NTS_Socioeconomic_Status_Questions.pdf_53743451.pdf , accessed on 25 March 2014.

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Such patterns have also been shown to be resistant to change over time, even where selection processes have been altered to attempt to recruit more widely[41]. They have also been demonstrated across many countries[42], including Australia[43]. In Table 5.1 below, entrants to medical training in Australia had a significantly higher socio-economic status than both general entrants to tertiary studies and the population as a whole[44].

Table 5. 1: Commencing medical students, other students and population by socio-economic status, Australia, 1996
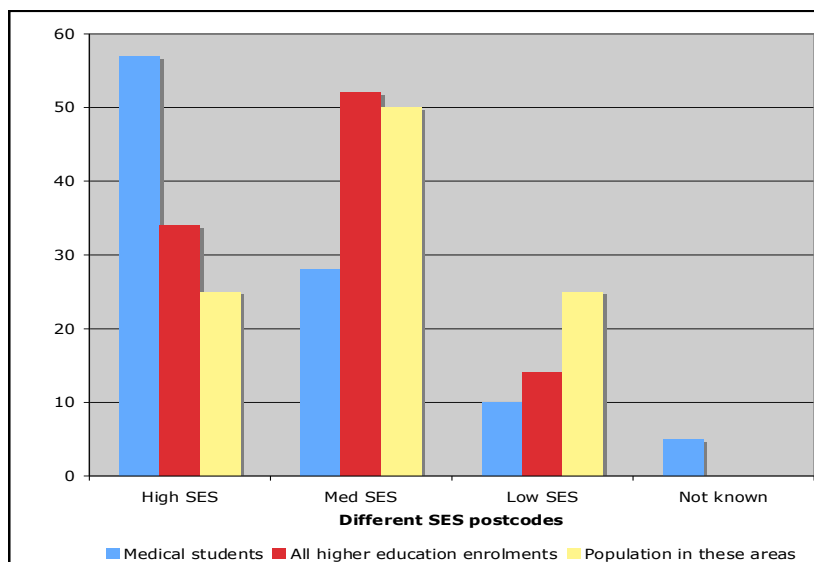
Source: Australian Medical Workforce Advisory Committee.
Australian Institute of Health and Welfare. *Characteristics of students entering Australian Medical Schools 1989 to 1997*. AMWAC Report 1997.7. AIHW cat. HWL 6. December 1997

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41   See eg, the 2008 US Association of Medical Colleges conclusion that despite efforts to increase diversity of parental income in those entering medical school between 1987 and 2005, little or no progress has been made. Jolly P. Diversity of US Medical students by parental income. 2008 *Analysis in Brief*, January, volume 8(1). Available at https://www.aamc.org/download/102338/data/aibvol8no1.pdf , accessed on 16 February 2016. Research in Denmark and other jurisdictions have shown a similar experience. In the Danish case, the equalizing effect of a quota system in 1992 had lost its impact by 2006-7: Pederson LT. Bak NH. Petersson BH. The social recruitment of medical students in year group 2006-2007 at the University of Copenhagen. 2010 *Ugeskr Laeger*, 18 January, volume 172(3), pages 206-210.

42   See also similar data for the US: Grbic D. Garrison G. Jolly P. Diversity of US Medical School Students by Parental Education. 2010 *Analysis in Brief - Association of American Medical Colleges*, August, volume 9 (10); for Canada: Dhalla et al. – see note 39; for New Zealand: Heath C. Stoddart C. Green H. Parental backgrounds of Otago medical students. 2002 *New Zealand Medical Journal*, 8 November, volume 115(1165), pages U237-U243.

43   See eg, Puddey IB. Mercer A. Socio-economic predictors of performance in the Undergraduate Medicine and Health Sciences Admission Test (UMAT), 2013 *BMC Medical Education*, volume 13, page 155: accessed at http://www.biomedcentral.com/1472-6920/13/155 on 18 April 2014.

44   While somewhat dated, this is the most recent data available.

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Coming from a higher socio-economic group from birth brings with it a range of privileges and expectations that are often unconsciously built into the identity of an individual[45]. This is likely to mean that some of the elements of the Doctor Identity, which are associated with the exercise of power and the possession of income and social status, may already have been established in the self-perception of medical students, both through exposure and expectation, before they even begin medical training.

Freidson also emphasised social and economic individualism, independence and class dignity as characteristics of such a background.[46] More recently, it is likely that the impact of increased numbers of women graduates[47] and the increased availability of other medical employment options, which provide a better work family balance for both male and female doctors, has altered the weight attached to economic individualism for many doctors[48], as discussed further below. However, a privileged background can prime medical students' identities with an unconscious or sometimes conscious expectation of success and result in them having high expectations of themselves. For someone who enters medical school

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[45]   The unconscious nature of unacknowledged, unearned privilege when one has grown up with it – the "invisible knapsack" - was described in a 1988 article by Peggy McIntosh. McIntosh M. *White privilege and Male privilege - A personal account of coming to see correspondence through work in Women's Studies*. Working Paper 189. 1988 Wellesley Centers for Women, Massachusetts (USA). Paper available at: http://nationalseedproject.org/peggy-mcintosh-s-white-privilege-papers.

[46]   In his 1970 seminal sociological work on doctors, *Profession of Medicine*, Freidson commented on the impact of social class on the worldview of professionals generally:

> Part and parcel of professional performance and the ideology surrounding it are the historical accretions of an occupational status and the social origins of its incumbent. Being predominantly from the bourgeoisie, the professional emphasises independence, social and economic individualism and class dignity in his status

Freidson E. *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. 1970 (2nd edition -1988 Impress) University of Chicago Press, Chicago: pages 172-173.

[47]   Women made up 51% of medical graduates in 2014. Medical Deans Australia and New Zealand. *Workforce Data Report 2015*. November 2015, page 1.

[48]   See McMurray J. Jordan JV. *Relational dilemmas of women physicians*. Work in Progress, Paper no. WP89. 2000 Wellesley Centers for Women, Wellesley (Massachusetts). See also Bavley A. Day 3: For young doctors, hospital paycheck trumps solo practice. 2013 *The Kansas City Star*, Monday 30 December at: http:// http://www.kansascity.com/2013/12/30/4721805/for-young-doctors-hospital-paycheck.html accessed on 23 April 2014;

from a lower socio-economically background, there can be pressures not to acknowledge their background as well as a pressure to succeed, which can add even more stress[49].

These elements of identity and background can be strengths or vulnerabilities. For example, with the high level academic requirements to achieve entry into medical school, new students are also likely to have an evidence based view that they are, in a range of ways, above average. However, once they commence studies, they are in a milieu where all the other students are high achievers as well, and so they become "average" in this environment, which leads a proportion of students to have self-doubt.[50] Rather than being a "high achiever", as they had always perceived themselves, they see their new status of "average" as the equivalent of failure, even though this is a mean in a very skewed sample of students. Research is beginning to show that this can increase student vulnerability to depression and anxiety.[51]

D.   *Training to be a doctor*

1.   **Duration of education and training**

At a practical level, the period of training to become a doctor is long – one of the longest training periods across all occupations. In Australia for example in 2012, 41.5% of commencing medical students enrolled in a five to six-year undergraduate medical degree, after competing for entry in an Undergraduate Medical and Health Sciences Admission Test (UMAT). Their admission requirements included their final year school scores, which

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[49]   See Takakuwa et al. 2005 at note 30: this book includes a range of stories from medical students from non-traditional backgrounds, some of whom discuss pressures to "fit in" and not acknowledge those differences for fear of stigma.

[50]   This is a variety of the "imposter syndrome or phenomenon", which has been evidenced in other environments where high achievers are clustered. The concept was first recognised and named by Clance and Imes in 1978. Clance PR. Imes SA. The imposter phenomenon in high achieving women: dynamics and therapeutic intervention. 1978 *Psychotherapy Theory, Research and Practice*, Fall, volume 15(3), pages 241-247.

[51]   See PBS Special. *Struggling in Silence: Physician Depression and Suicide*. Viewed at https://www.youtube.com/watch?v=k_tQgB-722Y, see especially 12.16-15.00, where the University of California San Diego School of Medicine staff and students discuss this issue in some detail. See also Villwock JA. Sobin LB. Koester LA. Harris TM. Imposter syndrome and burnout among American medical students: a pilot study. 2016 *International Journal of Medical Education*, 31 October, volume 7, pages 364-369. Available at: doi: 10.5116/ijme.5801.eac4

generally need to be in the top grouping[52] and generally some form of interview[53]. In 2012, 58.5% of medical students in Australia enrolled in graduate medical school[54]. This involves completing an undergraduate degree (often at an honours level) for three to four years, sitting a highly competitive Graduate School Admissions Test (GAMSAT) and then undertaking a four-year graduate medical training degree. After completing either medical degree, a medical graduate is required to do a one-year Post Graduate intern year in a hospital (or other approved setting for non-core rotations) to be qualified for admission to independent practice by the Medical Board of Australia. Trainee doctors generally continue to work in hospital for a further 1-3 years as a Resident, often as a precursor to specialty training, including General Practice. Some of this training can commence after the intern year, but some require a longer period of practice before entry. Often young doctors also take some time to determine where they want to go with their career. With the number of medical graduates in Australian universities increasing by 270% since 2000[55] but with limited specialty training places, an increasing number of young doctors are also working as career medical officers, in hospitals without an expectation of entering specialty training.

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[52]   Medical admissions generally require an Australian Tertiary Admission Rank of 99/100 or an Overall Position of 1, where the grading goes from a high of 1 to 25 for those directly leaving school.

[53]   Following a study of the impact and predictive use of interviews on academic success, the University of Queensland removed its interview process – for discussion see, Wilkinson D. Zhang J. Byrne GJ. Luke H. Ozolins IZ. Parker MH. Peterson RF. Medical school selection criteria and the prediction of academic performance – evidence leading to change in policy and practice at the University of Queensland. 2008 *Medical Journal of Australia,* 17 March, volume 188(6), pages 349-353: at page 353. More recently, a study has shown that this change has markedly biased the gender profile of domestic, direct graduate entry medical students, with male students increasing from 50.9% before the interview was removed to 64.0% after removal of the interview. The main testing differential appears to be in the GAMSAT section III – Reasoning in Biological and Physical Sciences. See Wilkinson D. Cassey MG. Eley DS. Removing the interview for medical school selection is associated with gender bias among enrolled students. 2014 *Medical Journal of Australia,* February 3, volume 200(2), pages 96-99.

[54]   MSOD Project Team. *2012 CMSQ [*Commencing Medical School Students Questionnaire*] National Data Report*, produced from the Medical Deans of Australia and New Zealand, Medical Schools Outcomes Data base: available at: http://www.medicaldeans.org.au/wp-content/uploads/2012-CMSQ-Report.pdf : Table 2, page 5.

[55]   Australian domestic medical school graduates increased from 1,195 in 2000 to 3,128 in 2015, and International graduates from Australian universities increased from 152 in 2000 to 521 in 2015. Combined data from Medical Deans Australia and New Zealand website: Data from 2000 in 2015 Medical Student statistics and data from 2015 in Workforce Data Report 2015

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Once a young doctor decides on their area of interest for long term work, they will commence Specialist or General Practice training. Depending upon which specialty is chosen this can take a further 3-6 years of full-time training (undertaken through, and while in, employment as a doctor), at the end of which an unconditional Medicare Provider number can be provided to allow independent practice. Alternatively, a doctor may decide to continue working in a hospital – as a Registrar or as a career medical officer.

Whichever course is chosen, the decision to become a doctor is an enormous commitment of time in education and training, even before any earning capacity can be exploited. A career in medicine is also a commitment to lifelong learning, even after formal qualifications are completed, with significant Continuous Professional Development requirements for registration and maintenance of College Fellowships.

2.   Socialisation and medical training

Becoming a doctor involves more than this long period of technical training and in-depth education to provide care to patients. Both university and clinical training comprise an intensive socialisation process into the medical profession with its own complex norms. Socialisation is the "collection of processes by which people acquire the values and attitudes, the interests, skills and knowledge – in short, the culture – current in the groups of which they are, or seek to become, a member".[56] It is also a means of occupational identity formation and professionalisation, where a student doctor is taught to identify firstly with medical students' colleagues and then later, with other doctors[57]. Medical school not only teaches the technical skills of medicine, but also "functions as a moral community" for "transmitting normative rules regarding behaviour and emotions to its trainees. Medical training is said to be "at root a process of moral enculturation".[58]

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[56]   Hafferty FW. *Into the Valley – death and the socialization of medical students*. 1991 Yale University Press, New Haven (USA): page 2.

[57]   Weaver R. Peters K. Koch J. Wilson I. 'Part of the team': professional identity and social exclusivity in medical students. 2011 *Medical Education*, volume 45, pages 1220-1229.

[58]   Hafferty FW. Franks R. The hidden curriculum, ethics teaching, and the structure of medical education. 1994 *Academic Medicine*, November, volume 69(11), pages 861-871: page 861.

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Medicine was once predominantly a male occupation[59], with a long history of elitism[60] and individualism[61], and entry into the profession was likened to entering the priesthood[62]. Important changes have happened in medicine in Australia and elsewhere over the past decades that have impacted on these traditions, and altered at least some of them. For example, this has included significant increases in the numbers of women studying medicine[63] and becoming doctors[64], increased diversity in the cultural and linguistic

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[59] In Australia, women did not commence practising medicine until the last decade of the 19th Century. The first female doctor registered in Australia was Constance Stone, who was registered in 1890, having had to travel overseas to gain her qualification. Macdonald W. The Life of Constance Stone – Australia's First Woman Doctor. 2003 East Melbourne Historical Society Newsletter, September: accessed at http://emhs.org.au/catalogue/emvf0144-p2 on 14 May 2014. By 1986, 25% of general practitioners and 16% of specialists were women. See: Australian Bureau of Statistics. *Australian Social Trends, April 2013 Doctors and Nurses,* Publication Number 4102.0, section: Are there more male doctors than female doctors?

[60] Irvine D. *The Doctors' Tale – Professionalism and Public Trust*. 2003 Radcliffe Medical Press, Abingdon (UK): pages 12 and 25.

[61] Freidson 1988 impress – see note 49: pages 172 and 191.

[62] Klitzman R. *When doctors become patients.* 2008 Oxford University Press, New York: page 297.

[63] Women made up 51.4% of commencing medical students in 2015, and 51% of medical graduates in 2014. Medical Deans Australia and New Zealand. *Workforce Data Report 2015*. November 2015, page 1, see also Health Workforce Australia. *Australia's Health Workforce Series - Doctors in focus*. 2012 Health Workforce Australia, Adelaide, page 11. The proportion of women has been more than 50% for all but one year (2012), since 2000. The highest proportion of women entering Australian medical schools was 57.3% in 2004. Medical Training Review Panel. *Eighteenth Report*. May 2015, Table D1, page 209.

[64] For example, the proportion of female specialists in training rose from 36% in 1999 to 44% in 2009, and across all working doctors the rise was from 29% to 36% over that same period. Health Workforce Australia 2012, at note 63: pages 11-12.

The numbers of female specialist doctors continue to vary significantly across different specialities, with average gender proportion of Fellows across Australian Colleges in 2013 at 35.1%. For example, Surgery and oral and maxillofacial surgery have 9.7% and 9.3% female fellows, and Intensive Care 16.8%, while women are in the majority in only Palliative medicine 51.8% and Sexual health medicine 54.1% in 2013. Medical Training Review Panel. *Eighteenth Report*. May 2015, Table D35, page 250.

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composition of the medical workforce[65] and the proliferation of new models of healthcare which focus more on group practices[66] and team work[67].

Despite these changes, many of the underlying medical beliefs, values and attitudes remain influential in professional training and socialisation, particularly in the hospital setting. This often occurs through the so-called "hidden curriculum", which is described as "the set of influences that function at the level of organizational structure and culture"[68]. There is

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[65]   The number of indigenous Australian doctors remains low, at only 0.5% of total medical practitioners employed being indigenous., though the number of new medical students identifying as Aboriginal of Torres Strait Islander was 2% in 2015. Australian Institute of Health and Welfare (AIHW). *Workforce 2014* – Medical Practitioners Detailed Tables: Table 1 Australia 2011-2014; and Medical Deans Australia and New Zealand 2015 – see note 63, page 1.

In relation to international cultural and linguistic diversity, the number of overseas trained general practitioners rose from 30.3% in 2005-2006 to 37.4% in 2011-12. In 2009, around 16% of medical practitioners who received their first medical qualification overseas, obtained their qualification from a country other than Australia, UK/Ireland and New Zealand. Health Workforce Australia. *Health Workforce by Numbers. Issue 1 – February 2013*, Australia's Health Workforce Series, 2013 Health Workforce Australia Adelaide: pages 16-17.

2014 data from the Australian Institute of Health and Welfare shows 31.5% of doctors in clinical practice gained their initial medical qualification in a country other than New Zealand or Australia. Australian Institute of Health and Welfare (AIHW). *Workforce 2014* – Medical Practitioners Detailed Tables: Table 1 Australia 2011-2014

33.3% of new medical students in 2012 spoke a language other than English, the 5 largest language groups being: 24.2% Mandarin, 15.5% Cantonese, 5.7% Vietnamese. 5.0% Tamil and 4.7% Sinhalese. MSOD Project Team 2012 - see note 2, Tables 13 and 14, page 9.

[66]   For example, in 2012, while 46.4% of doctors worked in private practice, only 27.1% were in solo practice. Female doctors were more likely to be working in group practices. Australian Institute of Health and Welfare (AIHW). *Medical Workforce 2012*. National Health Workforce series No. 8, cat. No. HWL 54. 2014 AHIW Canberra: see pages 20-21.

More recent 2014 estimates are that fewer than one in ten general practices remain solo practitioner based and there is a growing trend in the specialty area as well. McGilvray A. Strength in numbers. 2014 *MJA Careers*, 3 March, volume 200(4), pages C1-C2.

Self-employed general practitioners working in group practices receive a higher income on average, with this peaking in practices of 10 or more doctors. Cheng TC. Scott A. Jeon S-H. Kalb G. Humphreys J. Joyce C. *What factors influence the earnings of GPs and Medical Specialists in Australia? Evidence from the MABEL survey*. Melbourne Institute Working Paper Series, Working Paper No. 12/10. July 2010, Melbourne Institute of Applied Economic and Social Research, Melbourne.

Clinicians working in group practices also worked fewer hours than solo clinicians (39.5 v 45 hours). AIHW 2014 above in this note: page 25.

[67]   See eg, Baker DP. Gustafson S. Beaubien J. Sala E. Barach P. *Medical Teamwork and Patient Safety – the evidence-based relation*. 2005 Agency for Healthcare Research and Quality AHRQ 05-0053, available at http://www.ahrq.gov/research/findings/final-reports/medteam/medteamwork.pdf .

[68]   Hafferty FW. Beyond curriculum reform: confronting medicine's hidden curriculum. 1998 *Academic Medicine*, April, volume 73(4), pages 403-407: at page 404.

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also the "informal curriculum" which is defined as that part of the hidden curriculum that occurs outside formal classes and hospital rounds – over lunch, in the scrub room, in cars, in corridor meetings, behind closed doors between students and between doctors.[69] The formal curriculum encapsulates the explicit values of medicine in the lessons taught in formal classes, but the implicit values of the profession are transferred every day through the continuous socialisation processes of the hidden and informal curricula.[70]

Professional socialisation begins in medical school and continues through the period of internship and residency. As noted earlier, a central role in this aspect of training is the shift of identity from a non-medical to a medical perspective. This movement is both towards being a doctor and away from being a lay person and, arguably, a potential or actual patient. This identity shift can be an overwhelming experience, as the student struggles to learn not only the vast subject matter, but the ways of thinking and seeing the world, required of a doctor.[71] There are many biographical and autobiographical books about the experience of both medical education and internship[72], as well as several sociological studies[73]. Student experience of medical training is one of immersion in a

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[69]   Hundert EM. Characteristics of the Informal Curriculum and trainees' ethical choices. 1996 *Academic Medicine,* June, volume 71(6): pages 624-628

[70]   Coulehan J. Williams PC. Vanquishing virtue: the impact of medical education. 2001 *Academic Medicine*, June, volume 76(6), pages 598-605: pages 599-600.

[71]   Good BJ. DelVecchio Good MJ. "Learning medicine": the constructing of medical knowledge at Harvard Medical School. Chapter 4 in Lindenbaum S. Lock M.(editors) *Knowledge, power and practice – the anthropology of medicine and everyday life.* 1993 University of California Press, Berkley (California): pages 94-97, where the transformation of a patient into an object for "the medical gaze" is discussed.

[72]   See eg, Konner M. *Becoming a doctor – a journey of initiation in medical school*. 1987 Penguin Books, New York; Marion R. *The Intern Blues* 2001 Harper Collins Perennial, New York; Klitzman R. *A Year Long Night – Tales of a Medical Internship* 2010 IUniverse, New York; Takakuwa et al. 2005 - see note 30; Jauhar S. *Intern – a doctor's initiation.* 2008 Farrar Straus and Giroux, New York. There are also a range of older books – some of these are listed in: Conrad P. Learning to doctor: reflections on recent accounts of the medical school years. 1988 *Journal of Health and Social Behavior,* December, volume 29(4), pages 323-332.

[73]   An in-depth observational study of the impact of medical training on students over the course of their training conducted in the later 1950s by sociologists Becker, Hughes, Geer and Strauss remains an important iconic study of the socialising effects of medical training and its effects on students' attitudes and behaviour over the course of the socialisation process. Becker et al. 2004 – see note 29. Other more recent examples of such studies include: Bucher R. Stelling JG. *Becoming Professional*. Volume 46 Sage Library of Social Research. 1977 Sage Publications, Beverley Hills (USA); Haas J. Shaffir W. *Becoming Doctors – the adoption of a cloak of competence*. Department of Sociology, McMaster University Ethnographic. 1987 JAI Press, Greenwich (Connecticut). 2nd edition 2009 Jack Haas Publishing (Kindle format), Victoria (Canada).

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learning and socialisation experience of extreme proportions. The result of this is often that "the medical-clinical perspective permeates the very tissue of consciousness, forming a new and specific lens for viewing the world."[74] The intensity of the process of socialisation often experienced in medical school is frequently described in first-party accounts.[75]

Different approaches to medical training and assessment exist in Australia and elsewhere, with less focus on examinations, basic science, and rote-learning, and with more focus on the application of medical skills and problem-based learning, particularly in graduate medical courses[76]. It has been argued that these changes make the process of learning more democratic and humanistic and so more compatible with expectations of modern healthcare[77]. However, there is no doubt that whatever the course structure and methodologies, university medical education remains an intense, busy educational experience and the first stage of the enculturation of students into the practice and profession of medicine.

Studies show that the level of intensity of the training period, the identification with this as part of the professionalisation process and the subsequent impact on other relationships and

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[74]   Conrad 1988 - see note 72: at page 330.

[75]   This is an example of this intensity and its impact on young doctors:

> Because prospective medical students are so focussed on getting in and on their eventual membership in the prestigious and powerful medical profession, they are primed to be particularly susceptible to the indoctrination that typically occurs. .... Your life is hijacked. You're told what to do every minute of the day and overloaded with homework at night. Always trying to catch up, you devise ways to try to make up for lost time. You shorten your conversations with friends and family until you virtually no longer talk with them. You limit your daily routines until they're unfamiliar. Before you know it, little of your previous life remains. Your only focus is academic survival. You purge independent thought and don't ask larger questions relating to the educational process

> Takakuwa et al. 2005 - see note 30: page xv-xvi.

[76]   Universities such as University of Queensland, University of Newcastle, the Australian National University and Sydney University all use problem-based learning in their medical degrees. For discussion of the history of this change, see Barrows H. Problem-Based learning in medicine and beyond. 1996 *New Directions for teaching and learning*, Winter, volume 68, pages 3-12. For the research and theory behind it, see eg, Colliver JA. Effectiveness of problem-based learning curricula: research and theory. 2000 *Academic Medicine*, March, volume 75(3), pages 259-266. Some universities retain the more traditional approach to medical training: Richard P. Stockill S. *Learning Medicine*. 16th edition 2003 BMJ Books, London: pages 59-60.

[77]   Sanson-Fisher RW. Lynagh MC. Problem-based learning: a dissemination success story. 2005 *Medical Journal of Australia*, 5 September, volume 183(5), pages 258-260: at page 259.

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activities has a long-term impact on the practice of medicine and on the emotional well-being of doctors. Broadhead's 1983 study of the private and professional identity of medical students showed that "medical training delivers a jarring blow to private life" through:

> … a prolonged period in adult life of socioeconomic dependency and sacrifice, compromises in private relationships which evoke feelings of inadequacy, unfulfillment, and resentment, a system of motivation which thrives on anxiety, intimidation, competitive aggression, fear of failure, humiliation of self and so on.[78]

While this study is more thirty years old, the intensity of medical training and the expectations of medical students appear to have changed little. Broadhead concludes that this is an active professional conditioning strategy used in much of medical education and training, so that doctors will put their demands of the professional life ahead of their personal or any other concerns. "Students are expected to give unequivocal assurances that personal matters will not hinder their total involvement in and commitment to training in any way".[79] He argues that such processes undermine the service ideals of medicine, through the compensatory need for medical students to establish priority for their long-suspended private lives and to earn money[80]. Students come into medical school with a rich range of other identities which are often "squeezed out" in the training and education process, so that medical services lose the beneficial perspectives which would otherwise come from "students' collective identities as members and heads of families, members of ethnic groups, residents of communities and neighbourhoods and so on."[81]

The intensity of the training serves other socialisation purposes. Firstly, it is argued to act as a testing ground for levels of professional "commitment" to the doctor role,[82] though it is also arguable that this fails to recognise the importance of other identities to their

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[78]   Broadhead 1983 - see note 7: at page 102.

[79]   Broadhead 1983 - see note 7: at page 104. While the Australian Medical Council requirements for Medical Colleges include requirements like part-time work and leave arrangements, specialist trainees still describe supervisor reluctance to accommodate more family-friendly arrangements. Comments provided to the Canberra Region Medical Education Council, where the thesis author is a member.

[80]   Broadhead 1983 - see note 7: at page 108.

[81]   Broadhead 1983 - see note 7: at page 109.

[82]   Bucher et al. 1977 – see note 73: see pages 215-216.

development as a clinician. Secondly, the impact of the clinical hierarchy in hospital-based training, combined with the intensity of the process, acts as a form of socialisation akin to that experienced in childhood. By comparison to other forms of adult education where someone is socialised for a specific role, the socialisation of doctors can be seen as more allied to the primary socialisation of children. This is reflected in the power differential between medical teacher and student, the formal "learner role", and the content and intent of the socialisation experience, which is intended to mould basic values and beliefs in conformity with the dominant values.

> Medical school typically provides the student with a core of attitudes, values and norms which have as their content what medical school professors believe doctors "should" and "should not" do and think in a variety of situations. These attitudes, values and norms are addressed to the generalized abstract role of "doctor", not to the specific roles which the students will, in fact, one day occupy.[83]

The intensity of the medical school experience (and later internship and residency) also adds to the feelings of uncertainty and anxiety for a student[84]. They are separated physically from other emotional supports, by the intensity of their studies - their world becomes "medical" at its core. "More and more they find themselves alone or with other medical people. The socialization experience is intense, extensive, anguishing and exhausting".[85] The separation from their "ordinary" pre-medical school life and the concomitant anxiety for students is described as a necessary component of a "ritual ordeal" which forms an important component of socialisation into the medical profession. One of the purposes of this ritual is to bind those who have been through such an experience with each other[86].

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[83]   Olmsted AG. Paget MA. Some theoretical issues in professional socialization. 1969 *Journal of Medical Education*, August, volume 44, pages 663-669: at pages 664-665.

[84]   Haas J. Shaffir W. The professionalization of medical students: Developing competence and a cloak of competence, 1977 *Symbolic Interaction*, Fall, volume 1(1), pages 77-88: at pages 74-75. It is interesting to note in that study that the problem-based learning/continuous assessment environment is seen as aggravating the students' sense of uncertainty, when compared to other learning and assessment methods.

[85]   Haas et al. 1977 - see note 84: at page 77.

[86]   Ryynänen K. *Constructing Physician's professional identity – experiences of students' critical experiences in medical education*. Dissertation for the Department of Psychiatry, University of Oulu delivered 14 December 2001. 2001 Oulu University Press, Oulu (Finland): at pages 33-35.

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It also serves a symbolic purpose related to the "power" associated with becoming a doctor, discussed further in chapter 6. With the psychological persuasion of cognitive dissonance discussed in Chapter 3, the achievement of the status of doctor at the end is embedded with even greater significance.

> A would-be professional must undergo a process of mortification, of testing and ritual ordeal before he/she can be elevated to the special status and role afforded by a profession. This ordeal is important to the professionalization process because it, on the one hand, fosters an image of participants having worked to achieve special competence and on the other, because it mirrors the required professional image. … The perception of exaggerated expectations from their audience and the ritual ordeal nature of the professionalization process contribute to the model of omnipotence that students believed is helpful for performance success [as doctors].[87]

Socialisation of medical students in these various ways produce significant vulnerabilities and risks associated with preventable patient harm. While their identity is still very malleable, these strands of vulnerability are often unconsciously woven into the student's new professional self through the very structure of the educational and training experience. Not the least of these can be a subtle association between feelings of power and invulnerability, and becoming a doctor.

3.   Learning a new language and new ways of "seeing"

A common metaphor for medical education is that it is like learning a foreign language[88]. Students are required to memorise essentially a new technical vocabulary to describe things such as body parts, bodily functions and statuses, dysfunctions, diseases, biochemical and neurological flows and processes. This is very different from the day-to-day language they used when they entered medical school.[89] The language reflects and embodies the values and priorities of the discipline at multiple levels. At its core, it is a language of "scientific knowledge" that "largely replace[s] other forms of communication. The emotional

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[87]   Haas et al. 1987 – see note see note 73: See Chapter IV, as well as locations 591 and 1406.

[88]   See eg, Sobel R. MSL – Medicine as a second language. 2005 *New England Journal of Medicine*, 12 May, volume 352(19), pages 1945-46.

[89]   Ofri D. *What doctors feel – how emotions affect the practice of medicine*. 2013 Beacon Press, Boston: pages 37 -38; Kindle edition, location 569-583 of 3897.

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(affective) and symbolic (imaginative) aspects of human experience are distanced and diminished." [90]

Medical students also learn to present the descriptions of patient symptoms in this language, in a manner which is professionally recognised by their colleagues and "efficient" in communicating what may be clinically significant. The form of writing is not biographical from the patient's perspective. It is a narrative which constructs the patient from the lens of what the doctor wants to know to make a diagnosis and what will be written on the medical record[91]. The needs of the doctor shape the questions asked and the responses recorded as the patient's "history". Such recording forms a large proportion of the daily tasks of both medical students and interns – learning the skills and gaining competence in this area are central in their training[92]. The writing down of this information (or recording on a computer) serves multiple purposes.

> It authorizes the medical student [to question and examine the patient], justifies the interaction with the patient. It organizes the conversation with the patient, the whole process of working up the patient. It is written for an audience: other physicians who will not only make decisions based on the document, but judge the student based on its writing. And it is a critical dimension of formulating the patient as a project for treatment.[93]

The acquisition of the specific skills of case presentation, required in many different contexts in medical training and practice, is a significant goal in professional socialisation. Generally, these follow similar ritualised forms, but can be of varying lengths and formality, depending on their purpose. For example, they can be the short, informal information conveyed in daily rounds to formal case conferences or presentations at quality assurance and mortality and morbidity committees. The written form often includes

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[90]   Coulehan et al. 2001- see note 70: page 599.

[91]   Good BJ. *Medicine, rationality and experience – An anthropological perspective*. 1994 Cambridge University Press, Cambridge (UK): see chapter 3 "How medicine constructs its objects" – see especially page 79.

[92]   Indeed, much of this record-keeping work is delegated to interns and junior doctors – a process which both ensures that it becomes everyday language to them, and also structurally reinforces the hierarchy of medicine, where such tasks are seen as too insignificant for those higher up the hierarchy to do themselves. At a different level, it diminishes the importance of tasks which are the main tools of communication between patients and doctors and other members of the treating team.

[93]   Good 1994 - see note 91: especially pages 77-78.

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abbreviations, which a student needs to learn. Common features, which have been identified are[94]:

- Initial presentation of the patient through key, potentially medically salient features and sometimes observations on examination - "60-year-old man, obese, presented with chest pain of three hours duration, BP 170/110, SaO2 94, temp 37.";

- The separation of the biological process from the person (de-personalisation) - "The cervix and vagina were clear", "The ribs do not appear to be fractured despite the fall.";

- Omission of the agent, by using the passive voice - "The patient was transferred to Cardiac". "The oxygen was turned off for 15 minutes." "Patient was extubated."

- Treating medical technology as the agent - "X-ray revealed broken tibia." "Pathology showed elevated creatinine." "CAT scan showed disseminated malignancy."

- Account markers, such as "states", "reports", "denies" which emphasis the subjectivity of an account by the patient - "Patient denies smoking and use of recreational drugs." Patient reports very painful metatarsophalangeal joint on right foot.";

- Use of specific markers, such as a negative followed by a passive voice to soften the perception of an accusation, where there may have been a failure of care - "No morphine was administered." "No further details were noted on the referral."

- References to treatments that were not effective as the responsibility of the patient - "Patient failed to respond to the antibiotic." "Patient continued to exhibit pulseless ventricular tachycardia, despite defibrillation".

Learning the techniques of case presentations and the conventional language forms expected are important markers of achievement of professional competence in medical training. Consistent with the use of other passive descriptors discussed earlier like "adverse event" to describe preventable patient harm, these also pave the way for neutral descriptions of adverse events often found in the record of a patient. For example, a skilled student is likely to record "Post-op bleeding ++ occurred following the failure of a suture – transfusion initiated." rather than a more informative explanation, such as "Patient suffered significant blood loss, requiring transfusion, when the knot on Dr X's sutures came undone."

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[94]   Drawn primarily from observations of the author during root cause analyses, observation of case presentations during hospital visits and supplemented from Anspach RR. Notes on the sociology of medical discourse: the language of case presentation. 1988 *Journal of Health and Social Behaviour*, December, volume 29(4), pages 357-375.

Medical students are also expected to learn what a vast array of body tissues, cells, microbes and many other substances look like under the microscope, through various forms of radiographic technology and physically (both in a living body and a dead one). They must be able to describe the likely impact of any observations of these on the health or illness of a patient. Initially, students often have difficulty determining what these different things look like and how to "see" them, but as their training progresses, they begin to see "like a doctor" – in some anthropological literature called the "medical gaze". While students recognise that this is a specialised way of looking at other people and not appropriate in other contexts, this can be particularly hard during this intense period of learning of medical school. One anthropologist who was merely an observer in an anatomy class stated:

> During anatomy, this way of seeing is not neatly contained in the laboratory or limited to the appropriate contexts for the medical perspective. While participating in anatomy as an observer, I would occasionally be walking along a street and find myself a body amidst bodies, rather than a person amid persons. I found myself attending to anatomical features of persons I passed, rather than perceiving them as persons with social characteristics or imagined lives. Students describe vivid experiences of this sort.[95]

The multiple levels of observation required for a doctor – principally based on physical layers from the gene through cells into organs and into whole bodies – are all learned in medical school and clinical training. They are crucial skills for diagnosis, and complex to learn. They form one of the foundations of the world of medical experience – "a world filled with objects that simply are not part of our everyday world – [this] requires an entry into a distinctive reality system".[96] It is not hard to see why this would be a disorienting and consuming experience, and why students work so hard to obtain competence.

Combined with the new language and different world view, it is also not surprising that the experience can create tensions with their pre-medicine identities and relationships. The intensity of the student and later, intern, experience and the personal need to succeed found within most medical students, act as powerful drivers to become proficient in both the language and the medical way of seeing the world. It is also modelled by their teachers and

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[95]   Good 1994 - see note 91: at page 73.

[96]   Good 1994 - see note 91: at page 71.

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clinical supervisors and is intrinsic to the content and structure of their training and education, providing layers of impact, both consciously and unconsciously, on their identities as doctors.

4.   Rites of passage

As noted above, medical education and training is a journey away from being a lay-person[97], with a non-medical person's sensibilities about such important life events as birth and death. It is also a journey towards being a doctor with a greater tolerance for observing and acting in the presence of pain and suffering, illness and disease. The actual nature of medical practice means that medical students and later doctors engage in activities which are outside the realms of normal human experiences. They share some of these experiences with other people, like paramedical staff, nurses and carers. However, there are many parts of their training and professional socialisation – sometimes called rites of passage – which appear to set them apart from those who are not doctors and join them together with those who are. In the words of Haas and Shaffer "in order for individuals to makes such significant status changes they must undergo public initiations or rites of passage that prepare them for the adoption of their new role".[98] Many biographical accounts of medical training describe these "seminal moments of clinical development"[99].

In some places entry into medical school or the clinical years is marked by a ritual designed to represent this new stage in the student's life, such as the "White Coat ceremonies" used in some parts of the United States and other countries[100]. It is argued that this serves to

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[97]   Hafferty 1991- see note 56: pages 1 and 2.

[98]   Haas et al. 2009 - see note 87 : location 584.

[99]   Ofri 2013 -see note 89: page 10-11, Kindle location 148.

[100]   The concept was initially developed by the Arnold P. Gold Foundation as a symbol of the need for humanism - in particular, compassion and humility - in healthcare and included the making of an oath. For further information, see http://www.humanism-in-medicine.org/index.php/programs_grants/gold_foundation_programs/white_coat_ceremony accessed 20 April 2014. The theory of these ceremonies has been explained as a formal way of impressing medical students with the importance of compassion and humility. Gillon R. Culture and medicine – white coast ceremonies for new medical students.2000 *Western Medical Journal*, September, volume 173, pages 206-2007. However, others argue that such ceremonies can contribute to feelings of elitism, and being set apart, in particular from patients. Karniele-Miller O. Frankel RM. Inui TS. Cloak of compassion, or evidence of elitism? An empirical analysis of white coat ceremonies. 2013 *Medical Education*, volume 47, pages 97-108.

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"bond" the set-apart students to his or her white-coated peers, so that they lose their identity of origin and instead come to see themselves only as a doctor[101] – a strong manifestation of the expected move towards a separate Doctor Identity. While such ceremonies are not generally used in Australia, the intensity of medical undergraduate and post-graduate training can also result in the actual separation of people from their previous sources of identity – family, friends, religion, hobbies, non-medical work, ethnic and community connections – just because of the time needed to pursue their studies[102]. They come to mix only with those who are studying and working with them, and so develop a shared identity with this group[103], like the symbolic separation of the white coat ceremony. As one graduate said, despite being older and already having other identities as a father and husband:

> I have been absorbed into the "teamness" of medical training. During my last few months on the wards I tried to be decent to the patients, but my bonds, my emotional energy – what the psychoanalysts call cathexes – were all with doctors and medical students and to a lesser extent nurses [not with patients].[104]

It is argued by some that this preferential identification with others in the profession is, one of the core roles of the professional socialisation process.[105] The bonding with colleagues who share these intense experiences, combine with the actual separation from previous identities to help forge the person's professional identity. This is reinforced and to some extent accelerated by the response of others, such as family, friends and non-doctor colleagues, who often begin to treat them differently and ask different things of them, such as asking for advice about their own health.

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[101]   Veatch RM. White coat ceremonies: a second opinion. 2002 *Journal of Medical Ethics*, volume 28, pages 5-6. Wear D. On white coats and professional development: the formal and the hidden curricula. 1998 *Annals of Internal Medicine*, 1 November, volume 129(9), pages 734-737.

[102]   For example, the Medical Schools Outcomes Database showed that 40.7% of medical students did not work in paid employment while completing their medical degree. 37.9% worked for less than 9 hours per week. Carberry A. Dumbrell D. *2012 Medical Students Exit Questionnaire National Data Report*. Medical Deans Australia and New Zealand Medical Schools Outcomes Database and Longitudinal Tracking Project. Table 11, page 12. See also Haidet P. Hatem DS. Fecile ML. Stein HF. Haley HLA. Kimmel B. Mossbarger DL. Inui TS. The role of relationships in the professional formation of physicians: case report and illustration of an elicitation technique. 2008 *Patient education and counselling,* volume 72, pages 382-387:at page 384, where students discuss the importance of maintaining relationships outside medicine during training.

[103]   Weaver et al. 2011- see note 57.

[104]   Konner 1988 - see note 9: at page 365.

[105]   Ryynänen 2001 - see note 86: pages 34-35.

Another rite of passage occurs at the point in medical school training where students begin to interact with patients, which, in some cases, occurs very early in medical school. The kinds of clinical skills learned are often personally intrusive such as medical examinations, injections and the insertion of cannulas. The experiences of being present when medical procedures or operations are done and performing various simple medical procedures on patients accelerate the socialisation process. Some have described these as breaches of previously-held social and cultural "taboos" that can significantly impact on their sense of identity.

> Breaking taboos shakes up the experience of familiar sameness that Erikson called the sense of ego identity. Medical students ask, "How can I do that and still be *me*? They fear medical school will be "dehumanising" because the training requires a reorientation to parts of the self close to our humanity: the body and its products, relationships with others, and our sense of who we are.[106]

Other kinds of rites of passage may be being present at the birth of a baby[107] or when a patient dies.[108] In all these events, the "normal" (non-medical) reactions" someone may feel in these situations may not be considered "professionally" appropriate. Often senior clinicians model emotional disconnection and detachment for students, because often they were not trained to deal with their own emotional needs or those of their patients in their training[109]. This can mean that while the experiences operate as rites of passage, students can be left without emotional support at these important times[110]. Efforts are being made in some medical schools to foster awareness and reflection, and enhance empathy through

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[106]   Harper G. Breaking taboos and steadying the self in medical school. 1993 *Lancet*, 9 October, volume 32, issue 8876, pages 913-915 : at pages 913-914.

[107]   Davis-Floyd RE. Obstetric training as a rite of passage. 1987 *Medical Anthropology Quarterly*, September, volume 1(3), pages 288-318.

[108]   Rhodes-Kropf J. Carmody SS. Seltzer D. Redinbaugh E. Gadmer N. Block SD. Arnold RM. "This is just too awful; I just can't believe I experienced that … ": medical students' reactions to their "most memorable" patient death. 2005 *Academic Medicine*, July, volume 80(7), pages 634-640.

[109]   See eg Wear D. "Face-to-face with it": Medical students' narratives about their end-of-life education. 2002 *Academic Medicine*, April, volume 77(4), pages 271-277:at 273-275.

[110]   Rhodes-Kropf et al. 2005 – see note 108: at page 638, where 70% of students found their medical teams' support inadequate.

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these rites of passage, often though journaling[111], supportive professional modelling[112] or through reflection groups[113].

Another example of a rite of passage experienced by most medical students, which can give rise to emotional and physical responses, is where medical education includes cadaveric dissection.[114] Students can face significant challenges as they learn anatomy from an actual human body,[115] as this is often seen as breaking a deeply culturally ingrained taboo. They are thus fundamentally separated from who they were before they started medical training[116].

> To dissect a cadaver is not simply a neutral technical exercise, but raises questions about the relationship between human biology and human dignity, mortality, grief, and how to deal with emotions experienced by both patients and doctors.[117]

As well as a centuries-old training method for human anatomy, the experience of dissecting a deceased human is also argued to be a professional conditioning experience about acceptable emotional responses to the cadaver and even death itself. The socialisation message is that "within the culture of medicine, the cadaver should exist as a learning tool and an object for manipulation, rather than as a formerly living human being"[118]. This provides a fertile ground for later messages on death and emotions learned from the behaviours of teachers and more senior clinicians – that "doctors should not have emotional

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111   Wald HS, Reis SP. Monroe AD. Borkan JM. 'The loss of my elderly patient': Interactive reflective writing to support medical students' rites of passage. 2010 *Medical Teacher*, volume 32, pages e178-e184.

112   Ratanawonga N. Teherani A. Hauer KE. Third year medical students' experiences with dying patients during the internal medicine clerkship: a qualitative study of the informal curriculum. 2005 *Academic Medicine*, July, volume 80(7), pages 641-647.

113   Ryynänen 2001 - see note 86: pages 105-116 and pages 148-157.

114   Godeau E. Dissecting cadavers: learning anatomy or a rite of passage? 2009 *Hoktoen International – a Journal of Medical Humanities*, November, volume 1(5): sighted at http://www.hektoeninternational.org/Dissecting_cadavers.html on 16 May 2014.

115   See eg, Chen PW. *Final Exam: A Surgeon's Reflections on Mortality*. 2008 Vintage Books, New York: see Chapter 1 – Resurrectionist, pages 3-34.

116   Harper 1993 – see note 106.

117   Charlton R. Dovey SM. Jones DG. Blunt A. Effects of cadaver dissection on the attitudes of medical students. 1994 *Medical Education*, volume 28, pages 290-295, at page 294.

118   Hafferty FW. Cadaver stories and the emotional socialization of medical students. 1988 *Journal of Health and Social Behavior*, December, volume 29(4), pages 344-356: at page 350.

reactions to death; and that death is a failure and caring for the dying is not an important part of medicine".[119]

Often students and teachers engaged in human dissection tell macabre jokes. Cadaveric humour, like many other forms of black humour used in medicine, is used as a way of "releasing tension regarding anxiety-provoking phenomena".[120] The "jokes"[121] also act as socialisation tools, through norms which encourage students to "identify with the emotionally tough, cool protagonists at the expense of the emotionally weak, vulnerable victims".[122] It is also recognised that " '[a]natomy lab' humour, though a traditional means of coping, demeans both the subject matter and student and so does not relieve shame and guilt" which the student may be feeling as a consequence of the dissection[123].

Some medical schools seek to ensure that students reflect on the humanity and the gift of the deceased person to the students. These include spending a few minutes of silence to honour the person who donated their body at the beginning of the anatomy dissection process[124] or remembrance services held at the end of the dissection period, which can last for several months[125]. Nonetheless, the focus tends to be on the cadaver as a thing apart – very different from a person. The view of the separateness of their own identity from that of the cadaver is self-protective in many ways. Not identifying with the cadaver is easier than with a living patient, because the colours of the often long-dead, preserved body are quite different from a living being- Through a process of intellectualisation and

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[119]   Rhodes-Kropf et al 2005 – see note 108: at page 638.

[120]   Costello 2005 - see note 11: chapter 5 Lessons learned – the socializing influence of pedagogy; The use of humor, page 89.

[121]   It is often based around an archetypal student doing inappropriate things with the bodies or body parts of cadavers, and springing a surprise on another either vulnerable student or non-medical person.

[122]   Hafferty 1988 - see note 118, at page 350.

[123]   Harper 1993 – see note 106: page 914.

[124]   Bergeron L. Rite of passage for first-year medical school students: meeting their cadavers. 2005 *Stanford Report*, 14 September accessed at http://news.stanford.edu/news/2005/september14/med-anatomy-091405.html

[125]   Johnson M. The course of their lives. 2013, Milwaukee-Wisconsin Journal Sentinel, 12 October published on-line, Chapter 4 at http://www.jsonline.com/news/health/The-Course-of-Their-Lives-Medical-College-of-Wisconsin-students-gross-anatomy-class-225058322.html#!/the-weight-of-her-brain/ - the last section of webpage discusses the remembrance service for the "silent teachers".

habituation, the students desensitise themselves to the basic human response of emotional and physical stress they may, otherwise, have experienced with dissection of a human body[126]. However, it is arguable that this starts a process of changed perception, where both the human body and then patients become seen as purely biological entities – "as plumbing and chemistry, not as persons".[127]

In commenting about the cadaveric experience, students have said that it prepares them for the active practice of medicine – where a student is taught to work out what is wrong with a living person and then seek to fix what is wrong. One of the Harvard students, interviewed by BJ Good in his study, expressed it this way:

> The response to coming across an accident, or somebody falls down and breaks something or is bleeding … has more to do with the way you react to a cadaver, which is, what do I see here, what could I put back, how could I put it together, how can I stop the bleeding? That kind of active response as opposed to just a purely emotional or other kind of response is a crucial change that happens [over the period of dissection]. … The hands-on experience with a dead person three times a week for three months is really the most important for that kind of thing I've had.[128]

Medical anthropologists argue that this is part of the education of the students in a mechanistic view of the body, consonant with developing the "medical gaze". Much of the early scientific training in medical school is based on learning ways of finding out information about the body as a physical object. For example, doctors must learn to understand radiographic imaging to show the inside, microscopes to examine the cell minutiae and cadaveric dissection to gain physical entry into the body and its "compartments"[129]. Development of this view of the body as a machine, in which they will be required to diagnose what is not working, is one of the central features of the body of expert knowledge expected of a doctor as a professional[130]. It is thus another core element in the socialisation of a doctor.

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[126]   Charlton et al 1994 - see note 117, at page 294.

[127]   Charlton et al 1994 – see note 117, at page 290.

[128]   Good et al. 1993 – see note 71: at page 97.

[129]   Good et al. 1993 – see note 71: at pages 86-97.

[130]   Freidson 1988 – see note 49: pages 185-187 and 335-339.

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While gaining this knowledge is important in the skills expected of a doctor, it supports an illusion that a doctor *can* know all there is to know about the operation of the human body, specifically from examining the structures in it. It also creates an expectation within the students that if they know enough about the body, they can defeat disease and death, which is also an illusion. Both of these illusions form part of the cultural narrative underpinning parts of the Doctor Identity, discussed in Chapter 6. Professional self-understanding is that a doctor is the agent who can "fix" the machine, so long as what is wrong can be ascertained. Observation of medical students show that they see this experience as changing how they view themselves and other people, as a significant step in their professional transformation. In some of these descriptions, there is also the germ of medical hubris:

> You take people, you take them completely out of context from their normal life, subject them to a whole new set of rules, and have them do a lot of things you never thought you could do. And then when you take that back into your life in general and realize you're capable of that is when you realize you have grown so much. *(sic)*[131]

While this description is about the experience of being a medical student through these various rites of passage, it encourages a particular view of patients. A presenting patient is a "medical case" to be solved by the expertise of a doctor from the bio-medical information available, rather than as someone who is a social being, living in a network of relationships. This has a wide range of implications for the professional identity of a doctor and the identity conflicts medical students and young doctors can face in their medical socialisation. It can also have a particularly strong negative psychological impact on medical students, who are often led to medicine by their altruism and the desire to help people.

5. Psychological attributes of medical students

Studies have shown that medical students tend to share a range of psychological characteristics and that their medical training can result in various psychological changes. They are also subject to various psychological vulnerabilities that can be aggravated by

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[131]   Good et al. 1993 – see note 71: at page 95.

their medical training. Some of these can have a long-term impact on their identity and their well-being.

Five Factor categorisation

Studies of the psychological profile of medical students show that they share a number of common psychological characteristics across many countries. Many of these studies use the Five Factor Model of human personality[132] While subject to criticism[133], the categorisation is widely used in psychological research and in the medical student and doctor research discussed here. The Five Factors are:

- openness to experience (inventive/curious high score to consistent/cautious low score continuum), which includes intellect and openness;

- conscientiousness (efficient/organized high score to easy-going/careless low score continuum) which includes industriousness and orderliness;

- extraversion (outgoing/energetic high score to solitary/reserved low score continuum), which includes enthusiasm and assertiveness;

- agreeableness (friendly/compassionate high score to analytical/detached low score continuum) which includes compassion and politeness; and

- neuroticism (sensitive/nervous high score to secure/confident low score continuum), which includes volatility and withdrawal. [134]

While many of these phrases have different positive and negative valances in other contexts, for the purposes of this categorisation, these descriptors are supposed to be simple neutral descriptors across a continuum of personality traits, without the moral meaning and value normally attached to them. The Factors are underpinned by tools to measure specific

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[132]   See eg, McCrae RR. John OP. An introduction to the Five-Factor Model and its applications. 1992 *Journal of Personality,* June, volume 60(2), pages 175-215.

[133]   The Five Factors are a contested but nevertheless, consensus derived way of describing human personality. For various criticisms of the Five Factor method, see Block J. The Five-Factor framing of personality and beyond: some ruminations. 2010 *Psychological Inquiry*, volume 21, pages 2-25; and Boyle GJ. Critique of the five-factor model of personality. 2008 *Humanities and Social Sciences Papers*, Paper 297. At http://epublications.bond.edu.au/hss_pubs/297 . For the history and development of these scales, see McCrae et al.1992 – see note 133. There is considerable argument remaining about how fixed these are in time, in specific environments and cultures and over a lifespan, See eg, McCrae RR. Terracciano A. and 79 members of the Personality Profiles of Culture Project. Personality Profiles of cultures: aggregate personality traits. 2005 *Journal of Personality and Social Psychology*, volume 89(3), pages 407-425.

[134]   The inclusions in this list are seen as separate from but correlated with the Five Factors as indicated. They are also seen as sitting above what are called "facets", as set out in Table 5.2.

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characteristics called "facets" in this Model. Table 5.2 shows the 6 facets measured under a common tool used in some of the medical student studies, the NEO PI-R[135]

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135   This acronym stands for Neuroticism, Extraversion, Openness Personality Inventory - Revised.

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Table 5.2: Five Factors and Associated Facets measured by the NEO PI-R

5 Factors	Neuroticism	Extraversion	Openness to experience	Agreeableness	Conscientiousness
Associated Facets	Anxiety	Warmth	Fantasy	Trust	Competence
	Hostility	Gregariousness	Aesthetics	Straightforwardness	Order
	Depression	Assertiveness	Feelings	Altruism	Dutifulness
	Self-consciousness	Activity	Actions	Compliance	Achievement Striving
	Impulsiveness	Excitement Seeking	Ideas	Modesty	Self-Discipline
	Vulnerability to Stress	Positive Emotion	Values	Tender-mindedness	Deliberation

Source: Wikipedia entry on the Revised NEO Personality Inventory, at
http://en.wikipedia.org/wiki/Revised_NEO_Personality_Inventory

Successful medical students had high conscientiousness scores– the most important facet being self-discipline.[136] High extraversion and agreeableness scores were further predictors of success in the later clinical placement years. Conscientiousness was also a strong predictor against attrition from medical training[137], but medical students were not found to be the most conscientious students[138]. Medical students who scored low in conscientiousness and high in gregariousness and excitement-seeking are significantly less likely to be successful in exams and to drop out[139]. However, where high conscientiousness is combined with introversion and neuroticism, it is a risk factor for vulnerability to stress.[140] Interestingly, in other studies, low levels of conscientiousness was also associated with stress in these same circumstances.[141]

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[136] Lievens F. Coetsier P. de Fruyt F. de Maeseneer J. Medical students' personality characteristics and academic performance: a Five-Factor Model perspective. 2002 *Medical Education*, volume 36, pages 1050-1056: at page 1053-1054.

[137] Lievens F. Ones DS. Dichert S. Personality scale validities increase throughout medical school. 2009 *Journal of Applied Psychology*, volume 94(6), pages 1514-1535.

[138] Lievens et al 2002 – see note 136: Table 2, page 1053, which shows that the mean scores of students majoring in Economics, Law, Engineering, and Science all exceeded medical students in the conscientiousness factor.

[139] Lievens et al 2002 – see note 136: page 1055.

[140] Doherty EM. Nugent E. Personality factors and medical training: a review of the literature. 2011 *Medical Education*, volume 45, pages 132-140: at page 138.

[141] McManus IC. Keeling A. Paice E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: a 12-year longitudinal study of UK medical graduates. 2004 *BMC Medicine,* August, volume 2, pages 29-40: at http://www.biomedcentral.com/1741-7015/2/29.

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Generally, high scores on the neuroticism continuum for medical students was a predictor of stress in training and of longer term stress.[142] Neuroticism in the Model is a long-term tendency to be in a negative emotional state. High neuroticism scores indicate a tendency to experience unpleasant emotions, such as anger, anxiety, guilt, depression, envy and vulnerability more readily and more deeply. The person may also exhibit greater impulsivity, have trouble controlling urges and be more self-conscious. Neuroticism can be created or made stronger when someone is given conflicting values to incorporate into their own sense of values. This is a common issue leading to cynicism in medical students over the course of their training, as discussed below.

Given the intensity of the course requirements and the post-graduate training expectations, it is not surprising that those who are most likely to be successful have high levels of conscientiousness. In addition, conscientiousness and agreeableness are also likely to be helpful in ensuring that medical students more readily absorb and comply with many of the implicit values of the medical profession, which are core to successful "professional socialisation". The Five Factor model is used in some of the research discussed in the following sections.

Perfectionism

Perfectionism is another psychological attribute often seen in medical students[143], who have often had to achieve very high academic standards to get into medical school. It is also commonly associated with higher scores on the conscientiousness scale, and conscientiousness can predict longer term increases in perfectionism.[144] The common scale for measuring perfectionism, the Multidimensional Perfection Scale, defines three kinds of perfectionism[145].

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[142]   McManus et al 2004 – see note 141: pages 9-11.

[143]   Henning K. Ey S. Shaw D. Perfectionism, the imposter phenomenon and psychological adjustment in medical, dental, nursing and pharmacy students. 1998 *Medical Education*. volume 32, pages 456-464, at page 457.

[144]   Stoebr J. Otto K. Dalber C. Perfectionism and the Big Five: conscientiousness predicts longitudinal increases in self-oriented perfectionism, 2009 *Personality and individual differences*, volume 47, pages 363-368.

[145]   Henning et al. - see note 143: at page 458.

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Self-oriented perfectionism is where someone believes that striving for perfection is important and sets high standards for themselves, as well as criticising their own performance. It can be an adaptive trait, if it leads the medical student to strive to achieve high standards and to be pleased with their results. Equally, if the person always believes that they could have done better and is not happy unless they achieve the unachievable, the trait can be maladaptive and result in psychological anguish. Other-oriented perfectionism relates to expecting a lot from others, and again can be adaptive, such as when working in a team and expecting them to all to be able to contribute to high quality results. It can also be maladaptive, and lead to poor relationships in a team if the person doesn't have other skills to manage this trait in relationship. Socially prescribed perfectionism occurs where someone believes that their own self-worth and acceptance by others requires perfect performance, and that the person will be criticised or punished if they do not achieve these standards. In many ways, this describes the lived experience of many medical students. This last form of perfectionism is generally accepted as having negative psychological consequences for the student.

Compared to arts students, medical students showed a high degree of adaptive perfectionism, including higher personal standards and achievement striving, as well as higher levels of some maladaptive aspects of perfectionism. This study also showed that perfectionism was significantly correlated with neuroticism in medical students.   Often resulting in depression and feelings of hopelessness, their perfectionism was linked to their perceptions of discrepancy between their concept of what performance they expected of themselves and their actual performance. [146]

Medical students (in fact a range of health profession trainees) have a higher than average experience of one of the negative results of perfectionism, the Imposter Phenomenon[147]. This is where "high achieving individuals believe they are less intelligent and less competent than others perceive them to be. …[They] attribute… their success to factors unrelated to their intelligence (eg luck, charm) and live with a constant fear that they will

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[146]   Enns MW. Cox BJ. Sareen J. Freeman P. Adaptive and maladaptive perfectionism in medical students: a longitudinal investigation. 2001 *Medical Education*, volume 35, pages 1034-1042.

[147]   This issue is also discussed above at notes 50 and 51

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eventually be discovered as frauds" resulting in significant psychological stress and distress.[148] Overall, 30.2% of the health profession students in this study showed clinically significant levels of this condition, with more women (37.8%) than men (22%) affected. The existence of this condition was a strong predictor of psychological distress.[149]

On the other hand, first-year medical student self-oriented perfectionism can also act as a resilience factor in relation to negative life events, either personal or professional. Those medical students with low measures of self-oriented perfectionism showed higher levels of neuroticism and greater levels of psychological distress. Self-oriented perfectionism appeared to remove the association between negative life events and hopelessness.[150]

Striving for perfection in medical school may also be a tricky task for medical students, as the requirements for success vary over the period of training. During the first pre-clinical years, cognitive skills are the best predictors of success. However, at the clinical stage of undergraduate training, where students begin to interact with patients, those with significant non-cognitive social traits such as extraversion, sociability and higher levels of self-esteem are likely to do better.[151]

The competitiveness encouraged in some medical schools can also foster perfectionism. The general high level of altruistic and idealistic motivations for a career in medicine, expressed by many students and prospective students provide additional psychological reinforcement for drives to "do well". It is perfectionism with a social purpose, but it still comes with potential risks to psychological well-being, if students are not given opportunities and skills to discuss their experiences and emotional responses to them, and given a realistic understanding of what is humanly possible.

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[148]   Henning et al at 1998 - see note 143: page 457. See also PBS Special at note 51, where students describe feeling like this once they enter medical school.

[149]   Henning et al. at note 143: page 459. See also Villwock et al 2016 at note 51.

[150]   Enns MW. Cox BJ. Clara IP. Perfectionism and neuroticism: a longitudinal study of specific vulnerability and diathesis-stress models. 2005 *Cognitive Therapy and Research*, August, volume 29(4), pages 463-478.

[151]   Haight SJ. Chibnail JT. Schindler DL. Slavin SJ. Associations of medical student personality and health/wellness characteristics with their medical school performance across the curriculum. 2012 *Academic Medicine*, volume 87, pages 476-485.

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This is particularly so, where a student makes an inevitable error.[152] As discussed below, a common outcome is that the student is criticised and sometimes verbally abused, in front of the patient, the patient's family, professional colleagues and other health professionals. Such shaming behaviour has long-term psychological consequences which, this thesis hypotheses, may impact on their perception and management of errors into the future.

However, where an error occurs and it is managed more appropriately, sometimes the pendulum swings too far the other way and the student is protected from incorporating the idea of their natural human imperfection. There is evidence that, where an error occurs and is acknowledged as having happened, junior doctors are often given support which prioritises "reassurance over learning".[153] Where mistakes occur which could have or did involve harm to a patient, they should be managed sensitively. However, the management needs to ensure the student understands their role in the mistake, the impact on the patient and the importance of telling the patient what happened. Otherwise, the student loses the opportunity to learn and remains unskilled in how to manage mistakes at a later point in his or her career. Practices which are focussed mainly on reassurance and which eschew notions of responsibility or prevention may well protect the young doctor's ego, and support an unrealistic perfectionist view of their own performance and medical practice more generally.

Where the primary goal of a student is to become a doctor, perfectionism can also unconsciously support the uncritical emulation of clinical behaviours modelled by senior clinicians. Research shows that the modelling of values by those in positions of power can be sometimes inconsistent with good medical practice (the so-called "hidden curriculum). Modelled behaviour can be uncaring, inappropriate and even unethical, such as misleading

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[152]   Khullar, D. When medical student make errors. 2014 *The New York Times*, 15 May at http://well.blogs.nytimes.com/2014/05/15/when-medical-students-make-errors/?_php=true&_type=blogs&_r=0

[153]   Kroll L. Singleton A. Collier J. Jones IR. Learning not to take it seriously: junior doctors' accounts of error. 2008 *Medical Education*, volume 42, pages 982-990.

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patients about what has happened to them,[154] not recording accurate information on the medical record[155], and being disrespectful to patients, for example, through using derogatory humour[156]. Sometimes called the acquisition of "non-reflective professionalism"[157] it can result in a student acting in ways that are inconsistent with their original desirable motivating psychological drivers, that is, to help people. Identified as a common problem in the decline of student idealism discussed below, it is argued to result from the cultural strength of the hidden curriculum within medical training, being what actually occurs compared to the explicit teachings in the curriculum. One of the negative consequences observed in the behaviours of young doctors in these circumstances is an adoption of behaviours that are more "profession"-focussed than "patient"-focussed. Perfectionism can also become a psychological problem for medical students and doctors, where it comes to drive behaviours which are maladaptive either professionally or personally, such as hubris or arrogance, as was discussed in Chapter 3.

Idealism and cynicism

Commitment to helping others and altruism are strongly identified with students choosing to study medicine, and the virtues of compassion, empathy and concern for the suffering of others are considered important attributes of doctors. The ability to show empathy for the suffering of patients and to treat them with respect and dignity are also important ethical duties of both doctors and medical students. For more than 50 years, there has been evidence of an apparent decline in idealism, altruism and empathy over the course of medical training[158]. Originally this was associated with "traditional" medical education,

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[154] Feudtner C. Christakis DA. Christakis NA. Do clinical clerks suffer ethical erosion? Students' perceptions of their ethical environment and personal development? 1994 *Academic Medicine,* volume 69, pages 670-679.

[155] Martinez W. Lo B. Medical students' experiences with medical errors: an analysis of medical student essays. 2008 *Medical Education*, volume 42, pages 733-741: at page 737.

[156] See eg, Berk R. Derogatory and cynical humor in clinical teaching and the workplace: the need for professionalism. 2009 *Medical Education*, volume 43, pages 7-9. Wear D. Aultman JM. Varley JD. Zarconi J. Making fun of patients: medical students' perceptions and use of derogatory and cynical humor in clinical settings. 2006 *Academic Medicine*, volume 81, pages 454-462.

[157] Coulehan et al. 2001 at note 70, pages 600-601.

[158] A seminal study on this issue was Becker HS. Blanche G. The fate of idealism in medical school. 1958 *American Sociological Review*, volume 23(1), pages 50-56, at http://dx.doi.org/10.3402/meo.v18i0.21194 ; see also Eron LD. Effect of medical education on medical students' attitudes. 1955 *Journal of Medical Education*, October, volume 30(10), pages 559-566. The evidence has been collected since then and at the date of writing this thesis is still being

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where student clinical exposure commences in the third year.[159] However, further studies have argued that there is an observable increase in cynicism over the whole training period[160] and in "new" problem-based learning environments as well.[161]

Such loss of idealism is both illustrated and raised in the personal tales of medical training.[162]

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documented: see eg, Mader EM. Roseamelia C. Morley CP. The temporal decline of idealism in two cohorts of medical students at one institution. 2014 *BMC Education,* volume 14, page 58: accessed at http://www.biomedcentral.com/1472-6920/14/58 .

[159]   This should be compared with a more recent study (n=124) which showed that in one US medical school using a problem-based learning methodology, there was a significant initial decline in cynicism and a modest increase trust and altruism between 1st and 2nd year, with a reversal of these between years 2 and 3. Analysis of this study shows that the questions asked were somewhat different – using a validated scale about their perceptions of human nature generally, rather than within themselves. Roche III WP. Scheetz AP. Dane FC. Parish DC. O'Shea JT. Medical students' attitudes in a PBL curriculum: trust, altruism and cynicism. 2003 *Academic Medicine*, April, volume 78(4), page 398-402.

[160]   See eg, Kopelman L. Cynicism among medical students. 1983 *Journal of the American Medical Association*, 21 October, volume 250(15), pages 2006-2010, and recently Morley CP. Roseamelia C. Smith JA. Villarreal AL. Decline of medical student idealism in the first and second year of medical school: a survey of pre-clinical medical students at one institution. 2013 *Medical Education Online*, volume 18, item 21194: accessed at http://www.med-ed-online.net/index.php/meo/article/view/21194.

[161]   Maheux B. Beaudoin C. Berkson L. Côté L. Des Marchais J. Jean P. Medical faculty as humanistic physicians and teachers: the perceptions of students at innovative and traditional medical schools. 2000 *Medical Education,* volume 34, pages 630-634.

[162]   For example, Charles LeBaron's biography of his period at Harvard Medical School makes some observations about this transition. He was an older entrant at 34 years of age and had worked in the San Francisco health and welfare system as a social worker before gaining entrance to medical school. His experience of doctors' behaviour towards patients and other professionals had not been positive, and he sees the medical training he is now participating in as a precursor to this.

> For the last 10 years … I've worked in medical facilities. And there's one memory that just keeps coming back now. I'd be sitting talking to a patient, in would sweep twelve coats, grab the chart from my hand, never introduce themselves to me or to the patient, discourse loudly over the bed in technical jargon as if they were dealing with a chunk of beef, then sweep out without a word. Onto the next case. Always in a rush. I don't want to become that kind of doctor. And what's particularly strange to me is that the people in my class don't seem that way at all. Perhaps a little competitive, but that's about all.

> So the question in my mind for the last two weeks has been what's the hamburger machine that chops up nice kids and turns them into the doctors I got to know? I don't have a lot in the way of an answer yet, but I can see a couple of clues. One is starting off by not having weekends like everyone else, then moving on to the continuous round-the-clock work shifts on the wards. Combine this with an isolated setting, intellectually and emotionally. Eight or ten years later you emerge. You're in your thirties. You never really had your twenties. You realize you never really had a youth. Everyone else did. But you didn't.

> So how do you start treating the cause of this irretrievable loss, the patient? You treat him angrily, bitterly, you resent your job, you resent sick people. Maybe you decided that the only

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Examples of the impact of these patterns of decline in idealism and empathy and increased cynicism include a decreased interest in working in under-served communities,[163] jadedness about the medical profession,[164] cynicism about the application (or avoidance) of various ethical standards in everyday medicine,[165] less satisfaction with career choice or change of career path,[166] and various negative attitudes to patients or types of patients.[167] The term coined to describe the process is called "traumatic de-idealization".[168]

A number of theories about the reasons for this decline have been developed over the past two decades. One theory called the "professional identity model" sees the cynicism as an ordinary part of the normal maturation process of a doctor, as he or she struggles to develop a professional identity and becomes more realistic about the career he or she has embarked upon[169]. A second theory has been that students become cynical in response to the nature of the arduous and sometimes bullying training process. Testerman calls this the "inter-generational" model, and bases his theory on the intensity of training, exhaustion, an acknowledged history of student abuse and cynical role models[170]. A third model, which is

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thing you can get out of this ordeal is cash. Isn't there some way we can figure out to make a tiny inroad into that process, like switching a Saturday class to give people weekends?

LeBaron 1981 – see note 9: page 58. The book later notes that no change was made to the Saturday classes (page 79).

[163] Morley et al. 2013 – see note 160.

[164] See eg Feudtner et al. 1994 - see note 154.

[165] Hafferty et al. 1994 – see note 58: see especially page 866.

[166] Phillips SP. Clarke M. More than an education: the hidden curriculum, professional attitudes and career choice. 2012 *Medical education*, volume 46, pages 887-893.

[167] See eg, Szauter K. Turner HE. Using students' perceptions of internal medicine teachers' professionalism.; Higashi RT. Tillack AA. Steinman M. Harper M. Johnston CB. Elder care as frustrating and boring: Understanding the persistence of negative attitudes towards older patients among physicians-in-training. 2012 *Journal of Aging studies*, volume 26, pages 476-483: at page 481.

[168] Kay J. Traumatic deidealization and the future of medicine. 1990 *Journal of the American Medical Association*, 26 January, volume 263(4), pages 572-573.

[169] Testerman JK. Morton KR. Loo LK. Worthley JS. Lamberton HH. The natural history of cynicism in physicians. 1996 *Academic Medicine,* October supplement*,* volume 71(10), pages S43-S45. See also, Griffith III CH. Wilson JF. The loss of student idealism in the 3rd-year clinical clerkships. 2001 *Evaluation and the Health Professions*, volume 24, pages 61-70 pages 67-68.

[170] There is some evidence that the more oppressive the training process, the higher are the levels of cynicism and negative psychological consequences. See, eg, Bing-you RG. Changes in students' attitudes and values during medicine versus surgery clerkships. 1991 *Medical Education*, volume 25, pages 383-388.

probably now the most widely accepted, merges these two models together. The current socialisation process for doctors involves the active transmission of conflicting values through all parts of the training system. Student cynicism is an adaptive, coping mechanism to this environment[171], but one that has a lasting negative impact on the virtues, which medical education is supposed to teach and reinforce.

The teaching environment, particularly in the clinical parts of medical school and later in residency, is shaped by both the nature and structure of the training, by the values explicitly stated and by the actions of faculty and clinicians. Ideally, the modelling of behaviours by faculty, clinical and other hospital staff and the organisation of education and training would provide a coherent and consistent reinforcement of each other. These would be consistent with the expectations of a "good doctor" and model behaviours which reinforced the virtues expected of doctors once their training is completed. In reality, both the organisation of the training and the clinicians delivering it may enact behaviours and processes which are not consistent with the explicit values or behaviours.

While initially, the concept of the "hidden" or informal curriculum originally put forward by Hafferty and others[172] encompassed the transmission of all normative rules, more recently, the concept has also been used to describe "a set of unauthorised, unacceptable values masquerading as those of the institution"[173], which are what students and residents see operating. Once in the hospital setting, there are also the managerial imperatives, which add further conflicting pressures on the ethics and values of the student and doctors. Some examples of these include "bed management demands" relating to patient throughput, services driven by funding imperatives rather than patient need, and financial "risk

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[171]   Kopelman L. Cynicism among medical students. 1983 *Journal of the American Medical Association*, 21 October, volume 250(15), pages 2006-2010: at pages 2007 and 2010.

[172]   Hafferty et al 1994 –see note 58; Hafferty 1998 – see note 68; see also Hundert EM. Hafferty F. Christakis D. Characteristics of the informal curriculum and trainees' ethical choices. 1996 *Academic Medicine*, June, volume 71(6), pages 624-633. (This last article was the published proceedings of the opening plenary session of the Association of American Medical Colleges Conference on Students' and Residents' Ethical and Professional Development, held in October 1995).

[173]   Phillips SP. Blinded by belonging: revealing the hidden curriculum. 2013 *Medical Education*, volume 47, pages 122-125.

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management", where the obligation to "protect the hospital's coffers" can conflict with ethical duties to patients.

When driven by conflicting values and their own loss of compassion over time, the education practices and attitudes of teachers and clinicians can be dissonant with the ethical and cultural expectations of a doctor to be compassionate and caring. The negative values in the "hidden curriculum" modelled by those who are teaching in clinical settings often expose young students to behaviours which are inconsistent with the values expressly being taught (ignored values) or which actively work against values expected of medical trainees (inhibited values)[174]. The espoused virtuous explicit values conflict with the enacted implicit values.

Students can also be faced with situations where they must choose between what they have been told are "good doctor" values and behaviours, and their professional survival or academic success. For example, in a study of exposure to and participation in unethical behaviour by students, 58% said that they had done something unethical during their clinical rotation. Of these, 32.6% cited fear of poor evaluation", 31.6% cited "to fit in with the team" and 36.8% gave both reasons for their unethical conduct[175].

A common example occurs when a patient suffers preventable harm from a medical mistake[176]. The student may be faced with two competing values – honesty to the patient and the ethical duty to disclose the event to the patient and the collegiate loyalty owed to the team. If the medical team leader chooses not to inform the patient (thus ignoring the patient-focussed value and supplanting it with self-interest), the student is left in a difficult ethical place. This is even more difficult, when the person who has not behaved appropriately has power in relation to the assessment of the student or young doctor. In this case, students have described feeling like they are an accomplice[177]. Sometimes the

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[174]   Stern DT. The development of professional character in medical students. 2000 *The Hastings Center Report*, July-August, volume 30(4), pages S26-S29.

[175]   Feudtner et al. 1994 at note 154: at page 673.

[176]   Martinez et al. 2008 at note 155; Kroll et al 2008 at note 153.

[177]   See eg, Feudtner et al. 1994 at note 154: at page 674.

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inconsistency arises between stated commitments and values and organisational requirements, such as excessive working hours. For example, a young doctor may recognise that his or her level of fatigue is a patient-safety risk, but may feel impotent to refuse to continue working if required by their clinical supervisor[178].

Other examples of these value conflicts include the clash between compassion and respect for patients, and various clinician behaviours such as "blaming" a patient for their disease, for not responding as expected to a treatment or for having a chronic illness.[179] Another area of value conflict occurs where derogatory language and humour is used by clinicians in relation to patients, their families or the medical students themselves.[180] The research indicates that these forms of inappropriate behaviour towards patients are ubiquitous in healthcare. In one 1994 study, 98% of the students had heard doctors refer derogatorily to patients[181]. In a 2000 Canadian study covering both innovative (usually problem-based learning centres) and traditional medical schools, over 40% of senior students did "not perceive that their teachers manifest humanistic quality in their relationships with patients or students nor are they good role models in teaching the doctor-patient relationship".[182] The senior students felt that only 30% of their teachers were concerned about how patients adapt psychologically to their illnesses, across both types of medical schools. The data was so marked that the authors concluded "This study questions the adequacy of medical faculty as role models for the acquisition of caring competence by medical students".[183]

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[178]   See eg, Lopez L. Creating an ethical workplace: reverberations of resident work hours reform. 2009 *Academic medicine,* volume 84, pages 315-319.

[179]   Gunderman R. Illness as failure: Blaming patients. 2000 *The Hastings Center Report*, July-August, volume 30(4), pages 7-11.

[180]   See Wear et al 2006 at note 156; and Wear D. Aultman JM. Zarconi J. Varley JD. Derogatory and cynical humour directed towards patients: views of residents and attending doctors. 2009 *Medical Education*, volume 43, pages 34-41.

[181]   Feudtner et al. 1994 at note 154.

[182]   Maheux et al. 2001 at note 161: Table 1, page 632.

[183]   Maheux et al. at note 161: at page 630. While many of these studies are American, the limited studies available about doctor attitudes to patients (often disease specific), show similar attitudes between Australian doctors and US doctors in equivalent studies. It is also consistent with the observations of the thesis author in her interactions as a carer and consumer in healthcare, as a carer advocate for other healthcare consumers and as a collaborator and regulator in medical education.

Another scenario likely to show dissonance between what is said and what is done that can lead to cynicism relates to the management and organisation of the facility in which the students' training occurs, the arrangements in the training and the attitudes shown to students. For example, medical students and trainee doctors often find themselves within an organisational setting and work schedule which does not provide them with sufficient time to provide compassionate care to patients.[184] They may also find themselves in situations where their desire to be compassionate to a patient is treated by their supervisor as not appropriate "doctor" behaviour. When it comes to medical student welfare and teaching, the teachers and clinicians may also not "walk their talk", giving rise to cynicism and mistrust.

> [Students] may express cynicism if told that encounters with death and serious illness of patients can be expected to be traumatic to them, but yet to say they need support with these will be viewed as an admission of their own weakness. They are told they must learn to make many judgments in a climate of uncertainty, yet feel rewarded by a show of self-confidence that pre-empts such admissions.[185]

Another area of dissonance is between the humanism expected of doctors in their teaching role and how they treat students.

> Teachers also influence students by caring about and respecting them. All teaching involves the simultaneous transmission of two lessons: one is a lesson about theory or technique —why nature or artefact is what it is, or how to do something; the second is a lesson about ethics —the teacher's response to the student's efforts to learn and grow. The first lesson teaches students about intellectual constructs and technological reach and limits; the second instructs them about the exercise of power and authority and the meaning of human dignity. Too often teachers focus on the first lesson, either unaware of or unsympathetic to the second. But diminishing the significance of concern and respect in human relationships maybe by far the most powerful lesson that teachers leave behind[186].

This often occurs in the process of assessment and feedback provision to students. Sometimes teachers are poor, reluctant, or even rude, communicators[187]. Sometimes there may have been interpersonal differences between the senior doctor and the student or

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[184]   Kopelman 1983 at note 171.

[185]   Kopelman 1983 at note 171: at page 2007.

[186]   Reiser SJ. The moral order of the medical school. Chapter 1 in Wear D. Brickel J. (editors) *Educating for professionalism: Creating a culture of humanism in medical education*. 2000 University of Iowa Press, Iowa City: at page 3-10.

[187]   Dyrbye LN. Thomas MR. Shanafelt TD. Medical student distress: causes, consequences and proposed solutions. 2005 *Mayo Clinic Proceedings*, volume 80(12), pages 1613-1622: at page 1618.

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young doctor, which may or may not have been discussed with the student or young doctor[188]. Often adverse comments are unexpected or more extreme than expected, and there has been little if any constructive feedback along the way[189]. Sometimes it involves students and young doctors failing to "understand" the unwritten rules they are being measured against and being judged harshly against standards they have never been informed about.[190] Often students and young doctors feel angry and distressed that problems had not been brought to their attention at the time. Such treatment can result in long term anguish and embitterment for the young doctor or student, who feels unfairly criticised and unsupported in their learning.[191]

While many of the studies have been conducted in the United States, studies that have been conducted elsewhere show much the same experience and patterns with some cultural variations, including Canada[192], the United Kingdom[193], Australia[194] and Italy[195]. For example, an English study published in 2004, showed that (like their US counterparts) there were some good physician role models, but students also described "a hierarchical and competitive atmosphere in the medical school, in which haphazard instruction and teaching

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[188] In fact, research shows that feedback is most commonly *not* provided: Burack JH. Irby DM. Carline JD. Root RK. Larson EB. Teaching compassion and respect – attending physicians' responses to problematic behaviors. 1999 *Journal of General Internal Medicine*, volume 14, pages 49-55.

[189] Chowdhury R. Kahu G. Learning to give feedback in medical education. 2004 *The Obstetrician and Gynaecologist*, volume 6, pages 243-247.

[190] Hundert EM. Douglas-Stewart D. Bickel J. Context in medical education: the informal ethics curriculum. 1996 *Medical Education*, volume 30, pages 353-364.

[191] Hundert et al. 1996 - see note 172: the first article by Hundert provides two excellent case-studies, where tape-recorders were used to record conversations about "the hidden curricula", which illustrate this point and look at some of the suffering caused by these processes.

[192] Maheux et al. 2001 at note 161.

[193] Lempp H. Seale C. The hidden curriculum in undergraduate medical education: qualitative study of medical students' perceptions of teaching. 2004 *British Medical Journal,* 2 October, volume 329, pages 770-773.

[194] Gordon J. Markham P. Lipworth W. Kerridge I. Little M. The dual nature of medical enculturation in postgraduate medical training and practice. 2012 *Medical Education*, volume 46, pages 894-902. This was a small study of only 22 doctors who had graduated from one medical school, and focussed mostly on their experiences after graduation (median period since graduation was 26 years). Some younger doctors in the study talk about continuing problems with absorption and assimilation of undesirable values and practices, as well as experiences rejecting assimilation of some undesirable values. – see Table 1, page 896.

[195] Lamiani G. Leone D. Meyer EC. Moja EA. How Italian students learn to become physicians – a qualitative study of the hidden curriculum. 2011 *Medical Teacher,* volume 33, pages 989-996.

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by humiliation occurred, especially during the clinical training years".[196] The impact of these inconsistencies – the clash between words and deeds[197] - can undermine the altruism and idealism and have a negative impact on the well-being of medical students as discussed further below. One surgeon, Dr Chen, expressed the innate quandary for medical students and her own resolution of it thus:

> [Medical students] must reconcile incompatible ideals or "counter-attitudes" – values as diametrically opposed as detachment and concern, certainty and uncertainty, and humanism and technology. Like adolescents searching for a sense of identity, medical students will vacillate between each extreme. ... Ultimately they will settle at a comfortable equilibrium point, and this act of creating a new moral paradigm – detached concern, secure uncertainty, and humanistic technology – marks an important step in the transformation of the lay medical student into the full-fledged professional physician.[198]

In a thought-provoking article that looks at these dichotomies, Coulehan and Williams[199] contend that medical education is currently based on a commitment to explicit "doctoring" values, such as empathy, compassion and altruism (what is said), and on an implicit commitment to detachment, self-interest and objectivity (what is done). In this adverse socialisation environment, it is hard for medical students to become "good doctors":

> We believe that our entering medical students are "good seeds". In this essay, we focus on the lack of nourishment and the exposure to defoliants they encounter in medical training.[200]

Compared to the explicit values that form part of formal medical education, the educative force of implicit socialisation is that the implicit values are enacted all day, every day throughout medical training.[201] The authors state that implicit values learned in medicine distort medical professionalism and favour the development of three traits that are

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[196]   Lempp et al 2004 - see note 193.

[197]   Burks DJ. Kobus AM. The legacy of altruism in health care: the promotion of empathy, prosociality and humanism. 2012 *Medical Education*, volume 46, pages 317-325: at page 319.

[198]   Chen 2008 – see note 115: at pages 44-45.

[199]   Coulehan et al. 2001 at note 70.

[200]   Coulehan et al. 2001 at note 70: at page 599.

[201]   See also Cleland J. Johnston P. Enculturation to medicine: power for teachers or empowering lessons. 2012 *Medical Education*, volume 46, pages 835-837: at page 836, where they quote an aphorism attributed to Albert Einstein: "Setting an example is not the main means of influencing another; it is the only means."

antithetical to being a caring physician.[202] The first of these traits is detachment, which acts in opposition to empathy and leads to a "coldness of heart" towards the patient. The second is a sense of entitlement – a form of unending recompense for the rigour, intensity and long-term exploitative nature of medical training. The last trait is "non-reflective professionalism", which is used as a dissonance-resolving device where students "consciously adhere to traditional medical values, while being relatively unaware that they base much of their behaviour on beliefs at variance with these values."[203]

These traits are closely linked to the techniques that different medical students use to cope with the dissonance perceived between:

- the explicit values they are learning and probably associated in their pre-medical minds with the "good doctor", and
- the implicit values enacted in the behaviour of some clinicians, and apparently accepted and sometimes reinforced, in the organisational arrangements around them.

Psychologically, human beings are driven to make sense of the world around them. The deep dissonance experienced by these conflicting messages, as discussed in Chapter 3, automatically causes anxiety and is stressful for the person.

When students see these behaviours and observe the dissonant values being enacted, at first they may simply recognise the dissonance and feel the anxiety or stress. However, to reduce the anxiety and stress, they need to resolve the dissonance. Students may seek to draw attention to the behaviour they see as inconsistent with medical virtues by speaking out, but in so doing, run the risk of alienating someone who can have a powerful influence on their future, including assessment or employment.[204] Resistance can therefore be a high-risk strategy and is often avoided by students. The perception of risk and discomfort in raising ethical concerns appears to vary with the nature of the team, where the issue is observed and with the composition of the team[205]. However, the risk appears generally

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[202]   Coulehan et al. 2001 at note 70: at page 600.

[203]   Coulehan et al. 2001 at note 70: at page 600.

[204]   See eg, Phillips et al. – see note 166: at page 891.

[205]   Clever SL. Edwards KA. Feudtner C. Braddock III CH. Ethics and Communication: Does students' comfort addressing ethical issues vary by specialty team? 2001 *Journal of General Internal Medicine.* August, volume 16, pages 560-566: at page 561-562.

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high because the strongly hierarchical culture of most hospitals, and the power of medical staff over those lower down the hierarchy, like medical students.

For example, in a study, where 51% of students had witnessed unethical acts during their clinical years and 96% had reported hearing derogatory comments about patients, when asked if they were comfortable raising their ethical concerns, 39% believed they were too low in the hierarchy to question these behaviours[206]. In another study, 42% of students had been subject to pressure about practices, which exposed them to personal risk of physical harm, such as pressure not to use universal precautions put in place to stop transmission of blood-borne diseases. Despite the significant and potentially fatal impact of such exposure, 75% of the students "succumbed to that pressure against their better judgment suggesting the strength of the pressure students feel to oblige medical personnel".[207]

Students may dissociate from the dissonance, through keeping silent or separating themselves "either by indignation or by retreating to a deferential 'know nothing' student role"[208] but still recognise the behaviour as alien and inappropriate. This is likely to reduce their regard and respect for the person who enacted the dissonant values. In either case, the student may well respond with cynicism, as they are told one value and observe another.[209]

If students like the person who enacts the dissonant values, see them as a good person, or indeed see them as an otherwise good doctor, or they are struggling to establish their professional identity, the management of the dissonance can become more psychologically complex. They are likely to look at ways of making these two perceptions consonant. One method is to assume they have not actually correctly understood what has happened because they are junior – a *situational* misunderstanding. The second is to assume that their understanding of the explicit value was incorrect, and what the more senior clinician is doing must be the right thing – a *normative* misunderstanding. The impact of regular use of

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206   Clever et al. 2001 - see note 205: at page 561.

207   Feudtner et al. 1994 - see note 154.

208   Phillips et al 2012 - see note 166: at page 891.

209   Billings MA. Lazarus ME. Wenrich M. Curtis JR. Engelberg RA. The effect of the hidden curriculum on resident burnout and cynicism. 2011 *Journal of Graduate Medical Education* December, volume 3(4), pages 503-510.

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these methods to resolve dissonance is to subtly undermine their own sense of what is professionally appropriate and replace it with something more accommodating of the implicit values enacted. Such methods avoid continuing dissonance by effectively moving the student's values closer to the implicit values and further from the explicit values – a form of "ethical erosion"[210].

Applying these kinds of reasoning more generally, Coulehan and Williams[211] argue that there are three solutions adopted by students to the overall ubiquity of the dissonance between explicit and implicit values. The first "solution" is to abandon any attempt to comply with both sets of values and to aim for an ethic of competence, using the implicit values as the primary "doctor" values – what they call a "deflating" of values. Under such a model someone can still be good doctor, even if he or she is rude, disrespectful or has poor communication skills. This co-option of other values by implicit values in the professionalisation process is supported in other studies:

> The data seem to indicate that students try to bury any dissonance they feel and believe that the profession expects them to be resilient and not to have values, traits or needs that interfere or at odds with the ability practice medicine as modelled.[212]

The second "solution" is to conflate the values, as suggested by Dr Chen's quote above, where she talks about "detached concern" [213]. While in most cases it is not possible to fulfil both values at once, non-reflective professionalism allows a student to resolve the dissonance essentially by not thinking too hard about it. Given the time constraints on those in training, there is often little time for serious reflection in any case. The authors argue that "non-reflective professionalism" allows students and later doctors to delude themselves that there is consonance where there is not, and to define consonance is a manner which allows this to be so. For example, the young medical professionals become convinced that the most effective way to show compassion for a patient is to take a clinically detached approach".[214]

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210   Feudtner et al. 1994 at note 154.

211   Coulehan et al. 2001 at note 70.

212   Phillips et al. at note 166: at page 46.

213   Chen 2008 – see note 115: at pages 44-45.

214   Coulehan et al. 2001 at note 70: page 601.

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In a poignant but everyday tale of such a deflation of values between self-interest and the patient's interest, Dr David Hilfiker describes trying to decide whether a patient's leg should be stitched in a country hospital. He has been called from home to attend the country hospital, and if he simply applies a dressing, will receive minimal reimbursement from the patient's insurer. If, however, he can stitch the wound (which may or may not be required), he will be significantly better recompensed. He describes the discussion with the patient, giving him the pros and cons. When it looks like the patient will choose not to have stitches, he finds himself warning the patient again about the possible increased risk of infection and other benefits of having the wound stitched, as well as repeating the risks if the wound is not stitched. The description concludes with George the patient saying:

> "Well, all right. I'll leave it up to you. Why don't ya put the stitches in? I guess I don't want to monkey with it."

> George gets his stitches. I haven't been guilty of any great trespass, but I know how I have slanted my words.[215]

In some ways, this shows how easy it is to conflate values, without any particular malice. A common example is in the practice of so-called defensive medicine, where a doctor does a test or procedure which is not necessary for the patient or best practice, but which he or she thinks would be likely to be able to be used defensively, if the doctor is sued or a complaint is made. This is even more confounded when the doctor gains financially from the defensive practice. Another conflation occurs when a doctor "gives in" to a patient's request for a treatment, such as an antibiotic for a viral infection or some other request (like surgery for low back pain or arthroscopy, where there is no evidence of patient benefit in these procedures), with a superficial nod to "patient autonomy", a disregard of the ethical duty of non-malfeasance and scant attention to the financial conflict of providing an unnecessary service.

The last way the dissonance can be resolved is through rejecting the implicit values and retaining the student's commitment to the explicit values of medicine or to their idealistic beliefs about what doctors should be like. In this case, continuing the seed imagery used at

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[215] Hilfiker D. *Healing the Wounds: A physician looks at his work*. 1985 Pantheon Books, New York: page 177.

the beginning of their analysis, the seed "either falls on a patch of good soil (immunizing factors in the medical school) or is a hybrid seed that thrives on adversity (natural immunity)".[216] Natural immunity arises from having a pre-existing, more defined and mature value set, beyond the ideals of medicine, including religion or spiritual values, political or social values or, sometimes, other non-traditional backgrounds. Other potential "immunizing" factors are being a woman, being in generalist training (like general practice or as a general physician) or being at a medical school that seeks to actively tackle the implicit values and model empathy, compassion, attentiveness, fidelity and courage in daily routines and organisational practices.[217]

Some of the consequences of the perceived loss of idealism and increased cynicism discussed above is that the longer term emotional, psychological and physical well-being of doctors appears to be linked to maintenance of that idealism. Retained altruism can provide protection from burn-out both at the student and post-graduate level.[218] The impact of cynicism on medical students is also negative where it results in a lack of empathy for certain classes of patients[219]; derogatory and cynical humour directed at patients[220]; a greater pre-occupation with job security, debt and social status in career choices[221]; and a general reduction in compassion and humanism. Reductions in or an absence of empathy are the antithesis of what is desirable for a healing relationship[222].

Honesty and deceit

Historically, medical paternalism put a doctor's duty to "protect the patient" from some awful truth above a duty of truth-telling. However, it is widely accepted now that honesty is considered an important virtue for a doctor to have, particularly in his or her dealing with

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[216]   Coulehan et al. 2001 - see note 70: page 601.

[217]   Coulehan et al. 2001 - see note 70: page 601-602.

[218]   Billings et al. 2011 - see note 209.

[219]   Some of the groups of patients, which have been identified as subject to a lack of empathy include obese patients, elderly patients and chronically ill patients.

[220]   Wear D. Aultman JM. Varley JD. Zarconi J. Making fun of patients: medical students' perceptions and use of derogatory and cynical humor in clinical settings. 2006 *Academic Medicine*, May, volume 81(5), pages 454-462

[221]   Mader et al. 2014 – see note 158.

[222]   See eg, McMurray et al 2000 – see note 48: at page 2.

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patients[223]. It is a virtue mentioned in most documentation of medical values, but its practice is seldom taught in medical school[224]. There is evidence that over the course of medical training, students are both encouraged and in some cases, required not to be honest with patients and sometimes, with hospital management. Examples of this include:

- Witnessing doctors not telling the truth to patients, especially when there has been an adverse event or error;[225]

- Witnessing doctors falsifying records when an adverse event occurs[226];

- Being obliged to mislead patients[227];

- Being unsure of whether an adverse event has occurred and being discouraged from asking;[228]

- Telling untruths about specialty interests, because of fear of poor treatment by supervisors;[229]

- Keeping quiet about an issue to "protect" the team – a "norm of selective disclosure"[230];

- Lying or remaining silent about having failed done a test or examination of a patient, when it had been overlooked in a busy environment, for fear of negative assessment[231]; and

- Being asked to change or changing results in experiments or research[232].

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[223] See eg, Chuang AW. Nuthalapaty FS. Casey PM. Lacmarczyk JM. Cullimore AJ. Dalrymple JL. Dugoff L. Espey EL. Hammoud MM. Hueppchen NA. Katz NT. Peskin EG. For the Undergraduate Medical Education Committee, Association of Professors of Gynecology and Obstetrics. To the point: reviews in medical education – taking control of the hidden curriculum. 2010 *American Journal of Obstetrics and Gynecology*, volume 203, 316.e1-6: at page 316.e1.

[224] Stern DT. Practicing what we preach? An analysis of the curriculum of values in medical education. 1998 *American Journal of Medicine*, volume 104, pages 569-575: at Table 1, page 571 and page 574.

[225] Feudtner et al. 1994 at note 154: page 673

[226] Martinez et al. 2008 at note 155: at page 737;

[227] Feudtner et al. 1994 at note 154: at page 673-674, where 53% of students had been expected to mislead their patients either by lying or withholding information, with 98% of these students subsequently doing so.

[228] Martinez et al. 2008 - see note 155: at page 737, where 9% of students were unsure whether an error had occurred.

[229] Woolley et al. 2006 - see note 281: see Table 2, where 46% of students felt they had to be less than completely honest about their specialty or career interest to get fair treatment.

[230] Kroll et al. 2008 - see note 153: at page 984-985.

[231] Feudtner et al. 1994 – see note 154: at page 673.

[232] Ariyan S. Of mice and men – honesty and integrity in medicine. 1994 *Annals of Surgery*, December, volume 220(6), pages 745-750: at pages 746-748.

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Most of these types of mistruths lead to discomfort for the student and no doubt contribute to their own sense of ethical erosion over the training period. There is evidence that to witness these forms of behaviour and be unable to speak out can contribute to anxiety, reduce mental well-being and contribute to burnout, as discussed below.

6.   Impact of medical training on mental health and well-being

There are many studies that show that medical school can have a negative effect on the mental health of students, with a "high frequency of depression, anxiety and stress among medical students"[233] and burn-out, which is described as "high emotional exhaustion and depersonalization".[234] A systematic review of these studies set out several different factors hypothesised to be contributing to the decline in student mental health during medical school, including:

- Academic pressure and workload;
- Financial concerns;
- Sleep deprivation;
- Exposure to patients' suffering and death;
- Student abuse, such as public humiliation and various forms of bullying; and
- A "hidden curriculum" of cynicism, resulting in an unwillingness to care for chronically ill people and decreased empathy.[235], which has been discussed above.

Further, it has been postulated that the pressures of medical school can contribute to a perception of omnipotence and omniscience as defence mechanisms against the anxieties generated by medical education.[236] German research found that the mental health of medical students, as reflected in a healthy behaviour pattern, appears to decline as their

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[233]   The following article reviewed 40 articles on medical student psychological distress: Dyrbye LN. Thomas MR. Shanafelt TD. Systematic review of depression, anxiety, and other indicators of psychological distress among US and Canadian medical students. 2006 *Academic Medicine*, April, volume 81(4), pages 354-373.

[234]   Durning SJ. Constanzo M. Artino Jr AR. Dyrbye LN. Beckman TJ. Schuwirth L. Holmboe E. Roy MJ. Wittich CM. Lipner RS. Van der Vleuten C. Functional neuroimaging correlates of burnout among internal medical residents and faculty members. 2013 *Frontiers in Psychiatry.* 15 October, volume 4, article 131, page 1.

[235]   Dyrbye et al 2006 - see note 233: page 354.

[236]   Kane RL. Kane RA. Physicians' attitudes of omnipotence in a university hospital. 1969 *Journal of Medical Education,* August, volume 44, pages 684-690.

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years of study continue, and that this decline continues when they move to being physicians. [237] In this study, more than 27% of first year medical students demonstrated a risk behaviour pattern associated with excessive ambition, which was described as 'an excessive commitment to work, difficulties with emotionally distancing from work, limited coping abilities in stressful situations and difficulties managing negative emotions.[238]

Swedish research has noted as well that psychiatric morbidity is common in medical students but few seek help, and untreated morbidity can often result in burnout. Those medical students who have the highest levels of performance-based self-esteem, those who disengage through exhaustion and workload and those with depressive symptoms appear to be at highest risk of burnout.[239] Burnout has a high personal cost to medical students and residents, their families, patients and the health system, because of its pervasive impact:

> Burnout is a prolonged psychological response characterised by emotional exhaustion and depersonalisation within one's career. Its occurrence has been associated with decreases in the quality of care, empathy, altruistic attitudes and career satisfaction, and increases in patient objectification and patient dissatisfaction, and depression and substance use among medical professionals.[240]

The impact of burnout on a medical student's behaviour can be significant, [241] with research showing impaired academic performance, increased cynicism and reduced empathy, academic dishonesty, substance abuse, depression, suicidal ideation[242] and, in some cases, suicide[243]. A large 2010 study of more than 2,500 medical students in 7 US medical schools showed that about 52.8% suffered from burnout. The study results suggested a

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237   Voltmer E. Kieschke U. Schwappach DL. Wirsching M. Spahn C. Psychosocial health risk factors and resources of medical students and physicians: a cross-sectional study. 2008 *BMC Medical Education*, 2 October 2008, pages 46-55: at http://www.biomedcentral.com/1472-6920/8/46 .

238   Voltmer et al. 2008 - see note 237: at page 49 and Figure 1.

239   Dahlin ME. Runeson B. Burnout and psychiatric morbidity among medical students entering clinical training: a three-year prospective questionnaire and interview-based study. 2007 *BMC Medical Education*, volume 7, page 6: at http://www.biomedcentral.com/1472-6920/7/6 .

240   Burks et al. 2012- see note 197: page 320.

241   Dyrbye et al. 2005 at note 187: at pages 1616-1617.

242   Tyssen R. Vaglum P. Grønvold NT. Ekeberg Ø. Suicidal ideation among medical students and young physicians: a nationwide and prospective study of prevalence and predictors. 2001 *Journal of Affective Disorders*, volume 64, pages 69-79.

243   Hays LR. Cheever T. Patel P. Medical student suicide 1989-1994. 1996 *American Journal of Psychiatry*, volume 153(4), pages 553-555.

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relationship between burnout and a range of unprofessional actions, with burnout being strongly associated with engaging in one or more unprofessional behaviours (like lying about the completion of a patient's test results). It also showed those suffering from burnout had reduced attention to the physician's responsibility to society.[244]

The experience of burnout and other signs of mental ill-health appears to be particularly prevalent in the residency years. For example, in a 2002 study of burnout in an Internal Medicine Residency Program, 76% of the residents met the criteria for burnout. Among those who met the criteria, they were significantly more likely to provide sub-optimal care at least once a month.[245] Other research shows that residents suffer high levels of depressive symptoms[246] and, in some cases, anger.[247] These problems have been known about for more than 30 years[248] but remain an important unresolved issue for the mental health and well-being of residents.[249] For example, in 2010 study across 13 US hospitals, depression scores for residents went from 3.9% prior to internship to 25.7% during internship. While doctors, residents and medical students all show signs of burnout, a 2013 functional neuroimaging study on residents and faculty members found that the effects of burnout are significantly greater for residents and the burnout adversely effects the clinical

244   Dyrbye LN Massie Jr FS. Ecker A. Harper W. Power D. Durning SJ. Thomas MR. Moutier C. Satele D. Sloan J. Shanafelt TD. Relationship between burnout and professional conduct and attitudes among US medical students. 2010 *Journal of the American Medical Association*, 15 September, volume 304(11), pages 1173-1180: at pages 1178-1179

245   Shanafeldt TD. Bradley KA. Wipf JE. Back AL. Burnout and self-reported patient care in an internal medicine residency program. 2002 *Annals of Internal Medicine*, 5 March, volume 136(5), pages 358-367.

246   Collier VU. McCue JD. Markus A. Smith L. Stress in medical residency: status quo after a decade of reform. 2002 *Annals of Internal Medicine,* 5 March*,* volume 136(5): pages 394-396. This study stresses the significance of the financial burden on US residents, who have a combination of very high student loans and low wages to contend with, sometimes over several years. This may be different in Australia, because of different loan and payment arrangements. However, there are many other studies showing increased depression in residency from causes that are likely to be common across residency programs I other jurisdictions.

247   Anger seems to be experienced only in some specialties. For example, in family medicine, this does not appear to be a big concern. Michels PJ. Probst JC. Godenick MT. Palesch Y. Anxiety and anger among family practice residents: a South Carolina Family Practice Research Consortium Study. 2003 *Academic Medicine*, January, volume 78(1), pages 69-79.

248   Butterfield PS. The stress of residency: a review of the literature. 1988 *Archives of Internal Medicine*, June, volume 148(6), pages 1428-35.

249   Sen S. Kranzler HR. Krsytal JH. Speller H. Chan G. Gelernter J. Guille C. A prospective cohort study investigating factors associated with depression during medical internship. 2010 *Archives of General Psychiatry*, volume 67(6), pages 557-565.

reasoning of more junior staff, possibly because of its effect on cognitive control, which is an experience-dependent skill.[250] This means the cognitive effect and risk of harm to patients is likely to be greater when medical students and less experienced doctors suffer the effects of burn-out. It is likely that there is variation across jurisdictions, due to the mix of systems that junior doctors are working in, but it remains a concern everywhere.[251]

Modelled behaviour by clinical educators

As noted earlier, students are most profoundly impacted by the examples of clinicians they see when they are working in the clinical setting. Modelled behaviour can impact negatively on medical student well-being at a number of levels in their professionalisation. It often demonstrates physically, mentally and emotionally unhealthy behavioural norms for dealing with the impact of patient suffering and death on the clinician's own sense of well-being. Where the modelled behaviour enacts implicit norms and creates dissonance with explicit beliefs, it perpetuates anxiety in students. It also often leads to a gradual loss of the student's own original moral and behavioural compass, so that the student stops practising those good habits and virtues, with which they entered medical school, as they struggle to develop their professional identity.

The apparently limited range of modelled behaviours to deal with emotional, physical and psychological stressors also conditions medical students to be silent about their physical, psychological and emotional needs.[252] This can have longer term impact on their well-being, both as students and later as doctors as discussed in Chapter 4. Normal behaviours such as crying, whether from exhaustion or sadness[253], can be perceived as unprofessional and infrequently observed in those whom the students are likely to see as role models[254].

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250   Durning et al. 2013 – see note 234: pages 4-6.

251   In Australia, for example, a website to assist junior doctors manage their mental and physical well-being has been created http://www.jmohealth.org.au/

252   See eg, Kansagra S. *Everything I learned in medical school: besides all the book stuff*. 2011 Kindle book. Chapter 1: The Sinking Feeling, which tells of working in the operating theatre as a student and falling asleep standing up, while being unable to tell supervisors about it. Location 94 to 131.

253   Sung AD. Collins ME. Smith AK. Saunders AM. Quinn MA. Block SD. Arnold RA. Crying: experiences and attitudes of third-year medical students and interns. 2009 *Teaching and Learning in Medicine: An international journal*, volume 21(3), pages 180-187.

254   Shuval JT. Adler I. The role of models on professional socialization. 1980 *Social Science and Medicine Part A: medical psychology and medical sociology*, volume 14A, pages 5-14.

Tears are only considered an acceptable response by students, if shed in private and away from colleagues and patients[255].

Medical students often cope with the emotions associated with grief, loss, mortality and vulnerability through denial and detachment. These are frequently the modelled behaviours, as noted by surgeon Pauline Chen:

> Attracted to medicine in part because of our own particular anxieties [about dying], we may be a self-selected lot who eagerly suppress these fears as we adopt a professional ethos that embraces denial.[256]

Denial is seen by students as a way of dealing with both emotions and physical impacts of practice, like fatigue – a method which is modelled by those already working as doctors. Surgeon Chen is a transplant surgeon, and on her 83rd organ procurement, she had to take organs from a woman of her own age and appearance. After that event, she recognised how deep the defence of denial that she learned as a medical student had been, and how it had negatively affected her treatment of patients as human beings, particularly when they are dying.

> In the confines of our hospitals and our own particular practices, we imitate these fearless efforts to cure. During my training, I watched my attendings – seemingly immune to fatigue and hunger – stitching, removing stitches, then putting them back in and pushing onward in an attempt to save their patient in the operating room. … Just as easily, however, we physicians slip from the dramatic heroics into a well-work pattern of denial. Denial, after all, is a way of coping that we learn early and well as first year medical students, suppressing our anxieties as we carve away at the cadaveric remains of fellow human beings. Over time we come to believe so deeply that sublimating our fear of death makes us better doctors that some of us will skip around the very word during our conversations with terminal patients. We will work almost maniacally to forestall the inevitable, but then stubbornly – when death becomes inescapable, refuse to face it for fear of losing our focus on the goal of cure.[257]

Like ethical responses, the socialisation of emotional responses occurs within the hidden curriculum, where detachment is often modelled, tears are seen as weakness and students

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255   Sung et al. 2009 – see note 253

256   Chen 2008 – see note 115: pages 60-61.

257   Chen 2008 – see note 115: pages 204-205.

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are expected to toughen up[258]. The downside of this approach are that the student often loses empathy for the suffering of patients in an attempt to suppress their own legitimate feelings and internalise the emotional load associated with their work.   This is likely to contribute to burnout, depression and mental ill-health

Where the hidden curriculum creates dissonance as discussed earlier, this leads not only to cynicism but often to burnout.   While some of these studies are small and of poor quality, a recent study using validated measuring tools demonstrated that there was a correlation between poor professional climate, as assessed by students, residents and faculty, and medical student burnout.[259] Those who were high on the scale measuring burnout also tended to have decreased levels of empathy. It appears from studies that the exposure to unprofessional conduct itself increases both cynicism and burnout.[260]

The use of humiliation and belittlement in medical education

The risk of mental health problems and of experiencing socially-prescribed perfectionism can be aggravated by practices within the university and hospital experiences of medical trainees. For example, the actions of teachers or senior doctors can create an environment where perfect performance appears to be demanded, especially if belittlement or humiliation are used as teaching tools[261]. This reinforces the students' fear of failure and "imperfection". Such unrealistic demands and the fear of humiliation can also lead students to tell lies or mislead their supervisors, if they have failed to complete examinations or tests of patients, as discussed above. Fear of humiliation and shaming are powerful drivers in human beings, as discussed in Chapter 4, especially where students strive for perfection.

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[258]   Angoff N. Crying in the Curriculum 2001 *Journal of the American Medical Association*, volume 286(9), pages 1017-1018.

[259]   Brazeau CM. Schroeder R. Rovi S. Boyd L. Relationships between medical student burnout, empathy and professionalism climate. 2010 *Academic Medicine*, volume 85 (10), supplement, at pages S33-S36.

[260]   Billings et al. 2011 - see note 209: at page 507.

[261]   See eg, Kassebaum DG. Cutler ER. On the culture of student abuse in medical school. 1998 *Academic Medicine,* November, volume 73(11), pages 1149 -1158.

There is extensive and long-standing international literature on the incidence of the use of public belittlement and humiliation of medical students and junior doctors[262]. In the United States, since 1991, data has been gathered regularly on this issue through the Medical School Graduation Questionnaire. Despite efforts[263] to eradicate the practices over the last decade or more, little progress appears to have been made, with 34% of students reporting in 2012[264] that they have experienced humiliation or belittlement. While this was the largest type of mistreatment, there were significant other areas, including sexual and racial mistreatment - overall 47% of students experienced one or more of the specified forms of mistreatment during their medical undergraduate training[265]. The main sources of these negative experiences appear to be clinical faculty or consultants in the hospital (31%), residents or interns (28%) and nurses (11%)[266].

The incidence of mistreatment in medical studies appears also to be higher than in other academic faculties[267], though it is said that "faculty incivility" has been on the rise more generally in higher education[268]. While most of the research in this area has been driven by the data from the US national database, there is evidence that this occurs elsewhere,

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[262]   Fnais N. Soobiah C. Chen MH. Lillie E. Perrier L. Tashkhandi M. Straus SE. Mamdani M. Al-Omran M. Tricco AC. Harassment and discrimination in medical training: a systematic review and meta-analysis. 2014 *Academic Medicine*, May, volume 89(5), pages 817-827.

[263]   See eg, Fried JM, Vermillion M. Parker NH. Uijtdehaage S. Eradicating medical student mistreatment: a longitudinal study of one institution's efforts. 2012 *Academic Medicine*, volume 87(9), pages 1191-1198.

[264]   Mavis B. Sousa A. Liscomb W. Rappley MD. Learning about medical student mistreatment from responses to the medical school graduation questionnaire. 2014 *Academic Medicine*, May, volume 89(5), pages 705-711.

[265]   The questions about mistreatment ask about being publicly belittled or humiliated, threat or actual physically punishment, being asked to perform personal or sexual services, and a range of discriminatory conduct, covering gender, race, sexual orientation. See Mavis et al. 2014 – see note 264: table 2, page 708.

[266]   Mavis et al. 2014 at note 264: at page 707.

[267]   See eg, Rautio A. Dunnari V. Nuutinen M. Laitala M. Mistreatment of university students most common during medical studies. 2005 *BMC Medical Education*, October, volume 5, pages 36-48, at http://www.biomedcentral.com/1472-6920/5/36: see pages 43-44.

[268]   Berk 2009 – see note 156: at page 8.

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including Canada[269], Australia[270] and Finland[271]. In some areas such as sexual harassment, this is hypothesised to relate to the powerful hierarchies and gendered culture which still exist in medicine[272]. In relation to humiliation and belittlement and other forms of general abuse, it is hypothesised that there is a "trans-generational legacy", where those who were mistreated in training themselves mistreat those they train. [273] Others see it as a part of the professional socialisation process – "a rite of passage in the education of physicians" and as a motivator to do better.[274]

A popular medical teaching technique involves a teacher or other person in power asking a student or junior doctor a series of questions to elucidate their knowledge of specific facts, usually in a clinical setting, often with a patient, family and colleagues present. This can happen in ward rounds or at other times, and has been used in classroom settings as well. While the pedagogical reason for asking questions is that thinking is driven by questions not answers, the execution of the theory in medical training has been the cause of significant complaints by medical students, where it has been used in an abusive and humiliating manner.[275] It is based loosely on the so-called Socratic method, where the

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[269]   Cook DJ. Liutkus JF. Risdon CL. Griffith LE. Guyatt GH. Walter SD. Residents' experiences of abuse, discrimination and sexual harassment during residency training. 1996 *Canadian Medical Association Journal*, 1 June, volume 154(11), pages 1657-1665.

[270]   White GE. Sexual harassment during medical training: the perceptions of medical students at a university medical school in Australia. 2000 *Medical Education*, volume 34, pages 980-986; see also Askew DA. Schluter PJ. Dick ML. Régo PM. Turner C. Wilkinson D. Bullying in the Australian medical workforce: cross-sectional data from an Australian e-Cohort study. 2012. *Australian Health Review*, volume 36, pages 197-204. A number of Australian medical colleges have also issued policies or publications, directed at addressing the issue with their members: see, eg Royal Australasian College of Surgeons. *Bullying and harassment – recognition, avoidance and management.* 2011 RACS, available at http://www.surgeons.org/media/301655/2011_bullying_harassment.pdf

[271]   Rautio et al. 2005 - see note 267.

[272]   See eg, White GE. Sexual harassment during medical training: the perceptions of medical students at a university medical school in Australia. 2000 *Medical Education*, volume 34, pages 980-986.

[273]   Rautio et al. – see note 267: see pages 43-44. See also Rees CE. Monrouxe LV. "A morning since eight of just pure grill": a multischool qualitative study of student abuse. 2011 *Academic Medicine,* volume 86(11), pages 1374-1382. One of the students describes an interaction where the student questions the harassment being used, and the clinician's response is "Well, it happened to me, and I've done all right". (see Appendix at page 1382).

[274]   See eg, Mavis et al. 2014 - seet note 264: at page 708.

[275]   Wear D. Kokinova M. Keck-McNulty C. Aultman. Research Basic to Medical Education: Pimping: Perspectives of 4th year medical students. 2005 *Teaching and Learning in Medicine: An international journal*, volume 17(2), pages 184-191: http://dx.doi.org/10.1207/s15328015tlm1702_14

teacher asks questions to lead the student towards knowledge and understanding, but the nature of Socratic dialogue had a different purpose and means. This was to free the mind from the constraints of prior beliefs by deconstructing all prior thought on the subject (the de-constructive phase). Thereafter, the teacher helps bring forth new ideas in the constructive phase. In theory, this process is supposed to occur in a safe environment, in the presence of a teacher guided by humility.[276]

In the American literature and popular medical culture, it is often called "pimping". The impact of this process can vary enormously, depending upon how it is done and with what intention. At the positive end, it can be a way of identifying what a student knows and does not know and reminding all present of some key points – a form of interactive learning, with the aim of helping students to remember the key points[277]. Where it is done with an intent to humiliate or embarrass, it can easily cross the line to become a systematic form of abuse. An article on "The Art of Pimping" appeared in the *Journal of the American Medical Association*, in 1989, where Brancati said:

> On the surface, the aim of pimping appears to be Socratic instruction. The deeper motivation, however, is political. Proper pimping inculcates the intern with a profound and abiding respect for his attending physician while ridding the intern of needless self-esteem. Furthermore, after being pimped, he is drained of the desire to ask new questions – questions that his attending may be unable to answer. In the heat of the pimp, the young intern is hammered and wrought into the framework of the ward team. Pimping welds the hierarchy of academics in place, so the edifice of medicine may be erected securely, generation upon generation.

The article illustrates another operation of the "hidden curriculum", and the tension between the explicit values of learning and the implicit values of professional enculturation. Where the student's failure to answer questions asked is followed by humiliation or verbal abuse, it clearly crosses the line, but as one author asks: "where does the Socratic method end and current concepts of harassment and abuse begin?"[278] Given the frequent reports of

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[276]   Elder S. Application of the Socratic Method in health professionals' education. 2 November 2010. *Educational Theory and Practice* at: http://edtheory.blogspot.com.au/2010/11/application-of-socratic-method-in.html.

[277]   Detsky AS. The art of pimping, 2009 *Journal of the American Medical Association*, 1 April, volume 301(13), pages 1379-1381: at 1381.

[278]   Gordon LA. Is the Socratic Method illegal? 2003 *The American Surgeon*. February, volume 69(2), pages 181-182: at page 181.

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verbal abuse and humiliation experienced by medical students, and the consequent shame burden they bear, perhaps the perceived pedagogical benefits are outweighed by the crystallised risks.[279]

There are also specific medical forms of mistreatment, such as discrimination and mistreatment related to specialty choice, which seems to stem from inter-group biases within medicine, such as between specialties.[280] Student-reported actions have included observing and experiencing negative comments and treatment based on specialty or career interest, often accompanied by denial of teaching training or clinical opportunities. These were sufficient for many medical students to be less than honest with their teachers about their career interests.[281]

Bullying and humiliation, and the evidence of its current prevalence in medical training and practice as discussed in detail in Chapter 6. For medical students and trainees, these practices can have important organisational impacts through increasing the reticence of students and other team members to speak up or ask questions, and through creating long term anxiety. Combined with the hierarchical nature of healthcare, it can reinforce and accentuate the power distance and work against team based approaches to working[282]. Once medical students are conditioned by being humiliated, abused or shamed when they ask a question, make a mistake, delay to consider an answer or raise concerns with more senior staff, they may well remain inhibited in these areas for the long term. At a biological level, these kinds of events prime their emotional brain to recognise and respond automatically, with significant long term effects, as were discussed in Chapters 3 and 4 above.

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[279]   For a thoughtful analysis of these questions and further research questions, see Wear et al 2005 at note 275.

[280]   Oser TK. Haidet P. Lewis PR Mauger DT. Gingrich DL. Leong SL. Frequency and negative impact of medical student mistreatment based on specialty choice: a longitudinal study. 2014 *Academic Medicine*, May, volume 89, pages 755-761.

[281]   Woolley DC. Paolo AM. Bonaminio GA. Moser SE. Student treatment in clerkships based on their specialty interests. 2006 *Teaching and Learning in Medicine: an International Journal*, volume 18(3), pages 237-243: see especially Table 2, page 239.

[282]   Helmreich RL. Merritt AC. *Culture at Work in aviation and medicine: national organizational and professional influences*. 1998 Ashgate Publishing, Aldershot (UK).

Chapter 5 –Formation of the Doctor Identity

In many ways, element of the post-graduate intern and residency training process operate in a similar fashion to medical student abuse, so far as their intense psychological impact is concerned. For example, some young doctors experiencing internship have likened it to "hazing"[283], the process through which young recruits to military services, sporting clubs, apprenticeships, fraternities and colleges were traditionally initiated into their group identity. The training processes of internship, residency and then specialty-fellowship training, continue many of the patterns established in the undergraduate phase of medical training. Post-graduate hospital based training has been described as "difficult, intense and sometimes dehumanizing"[284], with more stories of stress, humiliation, exhaustion[285] and further shaming of trainees by doctors higher up the hospital training hierarchy, when they don't comply with medical group norms, for example, by questioning certain medical practices[286].

E.   Conclusion

The selection, education and post-graduate training of doctors is an intense socialisation experience that works deeply on the identity of those who seek to become doctors. While this chapter focusses on many of the aspects of medical education that appear to have a negative impact on patient safety and doctor well-being, there are also many positive aspects in the training process. The proposals in Chapter 7 look to how the positive aspects can be increased and the negative aspects reduced.

The professionalisation process moves a person from being a layperson, with sensibilities like a patient, to a doctor – an intense process which can make it difficult for young trainee doctor to hold onto at least part of the identities they started with. The implicit values enacted by doctors and teachers in their everyday actions provide stronger lessons on what it is to be a doctor than the formal lessons, so it is important for senior doctors to model good and healthy behaviours. Retaining some of their pre-medical identity and the values

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[283]   Konner 1987 – see note 9; Jauhar 2008 – see note 9:page 5; see also Takakuwa et al. 2005- see note 9: page 186.

[284]   Takakuwa et al. 2005 - see note 9: page 183.

[285]   See eg, Marion 2001 - see note 9; Klitzman 2010 - see note 9.

[286]   See eg, Jauhar 2008 - see note 9: pages 190-194.

Chapter 5 –Formation of the Doctor Identity

they brought into medical school can "immunise" students against the negative consequences of some of the implicit values to which they are exposed, and assist them to resist habituation into ethical erosion. Their identity as a doctor and "good person" are likely to be more resilient and multi-faceted, which can benefit the doctor, their patients and their work team.

Many of the experiences of medical school and later training are inimical to individual doctor well-being, to good care for patients, to a safe and effective healthcare system. The education and training of doctors create the blueprint for vulnerabilities in the Doctor Identity, so far as preventable patient harm is concerned. These psychological Achilles heels will vary between individuals, as will their resilience. The Doctor Identity including the "perfect performance" schema is influenced by their own experiences in medical training, and the parts of themselves that remain unchanged by medical professionalisation. All these can interact to establish the nature of the vulnerabilities from threats to that identity. Chapter 6 shows how this process can continue over a doctor's professional life. Chapter 7 shows that there is already positive change in medical training, Colleges and regulators, which may be starting to address some of these issues.

Chapter 6. The consolidation and maintenance of the Doctor Identity

A.   Introduction

In Chapter 5, the education and training of people to become doctors was discussed in some detail. The formation of the doctor identity involves not only learning the craft skills and the specialised knowledge of medicine as a science, but also the role of the doctor as a social actor – what is broadly called their medical socialisation or professionalisation. This transformation is a powerful identity shifting process, involving a redefinition of the individual, both internally and externally. The strength of the enculturation process and the almost universally recognised Doctor Identity, means that someone who becomes a doctor joins a profession of similarly changed individuals. Some have described it as a process of homogenisation[1] because it reduces the pre-existing variations between individuals as they are formed into the more consistent and differentially recognised identity of a doctor. This thesis hypothesises that this common identity brings with it common vulnerabilities, in relation to medical error and preventable patient harm.

The process of consolidation and maintenance of the doctor identity continues over the life of someone who chooses to become a doctor. As discussed in Chapter 5, in the formative stages of professional socialisation, the doctor-trainee learns to "act like a doctor" by watching those doctors who teach them[2]. They learn a role different from their "non-doctor" identity. Replicating the actions of those who are more senior and apparently successful is also a normal human coping mechanism for young people used to success in their previous learning experiences. They seek to fit into what must seem to be an otherwise alien and overwhelming environment. Replication is also adaptive in the particular learning environment, where the non-professional beginner needs to impress

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[1]   Beagan BL. Neutralizing differences: producing neutral doctors for (almost) neutral patients. 2000 *Social Science and Medicine*, October, volume 51(8), pages 1253-1265; see also Shapiro M. *Getting Doctored: Critical reflections on becoming a physician*, 1987 New Society Publishers, Philadelphia: see especially chapter 2. This same narrowing of variety of identity through professionalisation has also been acknowledged in training for the legal profession: see Guinier L. Fine M. Balin J. *Becoming gentlemen: Women, law school and institutional change.* 1997 Beacon Press, Boston.

[2]   The enactment of roles is seen in some schools of sociology as the mechanism through which the concept of "self" is created. See: Goffman E. *The presentation of self in everyday life*. 1969 (1990 Reprint) Allen Lane the Penguin Press, London: especially Chapter 1 – Performance.

those who are evaluating them[3]. This process continues from the University context, through the initial medical postgraduate years, normally based in a hospital setting, and into the specialty training environment. In each of these stages, the professional progress of a doctor depends to a large extent on the establishment of good relations with the supervising doctor. This in turn perpetuates the existing practices and culture, reinforcing the professionalisation process commenced at University. The first part of this chapter looks at the impact of the Apprenticeship model of post medical graduation training on the consolidation of the Doctor Identity.

Once a doctor is qualified, there are also a range of external validations that fortify the Doctor Identity, and provide personal reinforcement to the young doctor. These include the socio-economic benefits associated with being a doctor and the privileged position accorded to doctors in our society and many others. They also include the cultural and media stories associated with "being a doctor", often deeply embedded in an heroic paradigm. The second part of this chapter looks at these external reinforcers that motivate, strengthen and maintain the Doctor Identity and substantially increase the perceived risk and potential loss from any threat to that identity.

The third mechanism which consolidates and maintains the Doctor Identity comes from peer pressures to conform to and protect the group identity - sometimes called the "tribal" aspect of medicine. This collective nature of the profession has both positive and negative consequences for the Doctor Identity, and it serves as a powerful behavioural "forcing function". It creates enormous pressure to conform to peer norms and to not question the behaviours of other doctors around them.

The chapter includes a case study of the profound personal influence of the Doctor identity, even where this causes serious threats to the health and well-being of the doctor. The case study, which looks at doctor's experiences of being a patient or carer, also shows the perverse consequences the absorption of the "othering" norm of patients as "not-doctors".

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[3] Haas J. Shaffir W. *Becoming Doctors – the adoption of a cloak of competence*. Department of Sociology, McMaster University Ethnographic. 1987 JAI Press, Greenwich (Connecticut). 2nd edition 2009 Jack Haas Publishing (Kindle format), Victoria (Canada): see especially Chapter IV and V.

The training of doctors to cope with suffering can involve an "othering" of patients[4]. The perception of patients as "not-doctor" creates a multi-layer effect. At one end this can result in doctors' failing to seek medical attention when they need it for fear of becoming "a patient". At the other end, it can result in doctors treating patients in a manner that they would find unacceptable for themselves or their own family members.

This chapter hypothesises, on the evidence presented, that the ability of doctors to identify and act on preventable patient harm is also influenced by processes of consolidation and maintenance of identity. Medical error and patient harm brings an immediate threat to the individual and professional identity and tribal mores of doctors, which prompts the normal human psychological threat responses discussed in Chapter 3.

B.   Embedding the Doctor Identity through Apprenticeship

Much of the clinical training of doctors, both before and after graduation, occurs through modelling the practices of established members of the profession, usually in a hospital setting in an apprenticeship based model. "Acting like a doctor" in strongly hierarchical, apprenticeship-based clinical training involves learning most immediately from the next least experienced person in the chain, with all doctors learning from and often modelling those at the top of the hierarchy.

A junior doctor in such a hierarchy is relatively powerless and dependent for acceptance and success upon the favour of all those who are more senior. Their relative powerlessness, combined with limited experience at this early time in their careers, mean that junior doctors are not in a good position to question behaviours of more senior staff, when these appear to be unsafe or ethically questionable. This is partly because their concern may simply arise out of ignorance and be a misunderstanding of correct action or behaviour, and questioning may expose them to ridicule or shaming. At the beginning of their career, they

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[4]   Shapiro J. Walking a mile in their patients' shoes: empathy and othering in medical students' education. 2008 *Philosophy, Ethics and Humanities in Medicine*, volume 3(10), pages 1-11: accessible at BioMed Central - doi:10.1186/1747-5341-3-10.

are also often compelled to curry grace and favour with those higher up the hierarchy to secure a training position, which can make questioning a senior very difficult[5].

Adopting an uncritical approach to those higher up the hierarchy means they are therefore extremely vulnerable to replication of senior clinical behaviours which may or may not be the most physically, mentally or emotionally healthful. The reluctance to question superiors (and, in some cases, the observed negative impact of so doing) can also result in the absorption of the superiors' behaviours associated with conflicting implicit norms. The implicit norms expressed through the behaviours of doctors in practice are often at variance with the values and norms taught in the formal medical training curricula or regulatory standards, established by accreditation bodies and other explicit standards monitoring processes and organisations.

For example, despite the imposition of a mandatory standard on compliance with hand washing by health professionals as part of the Australian Commission on Quality and Safety in Health Care's National Safety and Quality Health Service Standards, audits still show a lower rate of compliance by doctors than other health professionals[6]. This is despite more than 150 years of awareness that hand hygiene is critical for reducing infection in patients[7] and the efforts of the World Health Organisation over the past decade to focus on

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[5]   The fear of asking questions can impinge upon learning in a very fundamental way – with junior doctors being reluctant to ask questions when they don't know something or when they appropriately need assistance when something is outside their current competence.

[6]   National compliance rate showed medical practitioners had the lowest rate of compliance across all classes of health professional, and while overall the medical profession reached the "target standard of 70% at 70.9%, their compliance before touching a patient was 65.8% and after touching a patient's surroundings was only 60.7%. Hand Hygiene Australia. *National Data Period Two 2015 (June)*: sighted on 2 November 2015, at: http://www.hha.org.au/LatestNationalData.aspx

[7]   This work on the spread of so-called "childbed fever" through a lack of hand-washing was undertaken by Ignaz Semmelweis between 1841-1848 in Vienna: Semmelweis I. *The etiology, concept and prophylaxis of childbed fever*. (Edited and translated by Codell Carter K.) 1983 Madison University of Wisconsin Press, Wisconsin. Oliver Wendell Holmes published a similar hypothesis in the USA in 1843, based on a 1795 treatise published by Dr Alexander Gordon of Aberdeen: Holmes OW. The contagiousness of puerperal fever. Chapter in *Medical Essays 1842-1882*. Essay printed in 1843, reprinted with additions 1855. Made available through Project Gutenberg as an E-Book: at http://www.gutenberg.org/files/2700/2700-h/2700-h.htm#link2H_4_0005. Also available at http://www.bartleby.com/38/5/1.html. Two distinguished professors of obstetrics, Hugh L Hodge and Charles D Meigs fervently denied Holmes' theory of contagion. In the case of both Semmelweis and Holmes, the findings were contested and generally ignored by the medical profession.

this issue[8]. Because of the young doctors' strong desire to *be* a doctor, modelling the actual behaviours of those higher in the hierarchy powerfully shape the identity and actions of the young doctor. While it is hoped that this teaches good professional habits, in some cases, no doubt, it fosters bad habits. So far as handwashing is concerned, data shows that it might be better for patients if junior doctors emulated nurse handwashing practice, rather than senior doctor behaviour.

The apprenticeship model of medical training also embeds the power of the medical hierarchies that exist within both the hospital and the individual training groups. Like the Masters and apprentices that existed in Guilds in the medieval period, this relational model with its high status differential and power distance characteristics remains at the core of medical training. At its best, a highly skilled and gifted teacher helps the trainee to acquire competence through experience and guidance; at its worst poor and destructive practices are perpetuated and the culture remains unquestioned. The intrinsic problem with such a relationship is that these characteristics cumulatively decrease the possibility that someone will question what is being done and make it much more unlikely that the junior party in the relationship will "challenge the errors of their superiors".[9]

Some of the negative modelled behaviours are known, at an intellectual level, to be counter-productive and perhaps likely to lead to unsafe practices, but they are argued to be part of the tradition of medicine[10]. One example of this is the question of fatigue and working hours, discussed in Chapter 4. Part of these "traditional" professional attitudes derive from the residual volunteerism that was historically part of a medical world vastly different from today, where doctors often provided their medical and training work in a

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8   The WHO first Global Patient Safety Challenge, Clean Care is Safer Care, began in October 2005. The campaign is now also using the tag Save Lives – Clean your Hands. Sighted 2 November 2015, at http://www.who.int/gpsc/en/

9   Helmreich RL. Merritt AC. *Culture at Work in aviation and medicine: national organizational and professional influences*. 1998 Ashgate Publishing, Aldershot (UK): for status differential, see pages 39-41; for power distance, see pages 57-58.

10   Other examples of this are provided in the RACS EAG Report. Expert Advisory Group on Discrimination, Bullying and Sexual Harassment advising the Royal Australasian College of Surgeons (RACS). *Report to the Royal Australasian College of Surgeons*. 28 September 2015 RACS, Melbourne (RACS EAG Report 2015). Available at http://www.surgeons.org/about/expert-advisory-group/reporting/: see especially "Unhealthy work practices and training arrangements", page 12; and page 2, where it is stated the "Long established traditions that have been inherited and have normalised unprofessional and, and sometimes illegal, behaviours must be relinquished."

public hospital for free[11]. Under that model, interns received only very low wages plus board and lodging, or were even unpaid[12]. The expectation was that the doctor would work as many hours as asked of him or her. Such traditions can be difficult to shift, even where research evidence shows the negative outcomes of doctor fatigue for patients, other care team members and doctors themselves. The current on-going reliance in many public hospitals on voluntary training work by all doctors, especially senior doctors, is also a negative historical legacy of volunteerism. This model may need to be reconsidered in the context of the increasing volume of trainees and assessment obligations, and the imposition of external pedagogical standards and educational training on the volunteer supervisors. There is a growing need for the allocation of dedicated "time to train" in work expectations of supervisors to address some of the deficiencies in training under the strictly "volunteer" model.

The current theory is that all qualified doctors can and should be teachers, despite in many cases, never having received any formal training in adult pedagogy. Teaching is an expected part of the role of most doctors, particularly those based in public hospitals. For example, the Australian Curriculum Framework for Junior Doctors[13] includes a number of

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[11] In the United Kingdom, there was a long tradition of doctors working a few hours of their week on an "honorary" unpaid basis in exchange for rights of private practice in these hospitals. In the UK this occurred in "voluntary hospitals" which were charitable bodies often looking after poor acutely ill people, who were expected to recover and the arrangements ceased with the implementation of the National Health System: http://www.nhshistory.net/voluntary_hospitals.htm#The%20doctors In Australia this practice occurred to a lesser extent in public hospitals up to the introduction of Medibank in 1975. Those who were not covered by private insurance because of costs relied on "charitable care made possible by contributions in money or services by members of religious and benevolent community organisations and the medical profession". Browning B. Health funding and medical professionalism – a short historical survey of the relationship between government and the medical profession in Australia. 2000 *Australian Academy of Medicine and Surgery*: Available at http://www.aams.org.au/contents.php?subdir=library/history/funding_prof_med_au/&filename=index#3.

[12] In the history of medicine, periods of internship were, in some countries, generally unpaid. A description of a 1937 internship in the US Harvard medical service was that an intern received "a bedroom, board and the laundering of one's white uniform" with working hours that "were all day every day, and on call for admissions and emergencies every other night, all night long". When interns needed money, they sold their blood for transfusions at $25 per pint as well as a pint of whiskey. Thomas L. *The Youngest Science – Notes of a Medicine-watcher*.1983 Penguin Books, New York: pages 36-37.

[13] The Australian Curriculum Framework for Junior Doctors "outlines the knowledge, skills and behaviours required of prevocational doctors (PGY1, PGY2 and above) in order to work safely in Australian Hospital and other healthcare settings" and was developed by the Postgraduate Medical Education Councils of Australia. The Framework was revised in 2009 and 2012. Sighted on 2 November 2015, at http://curriculum.cpmec.org.au/background.cfm . Under "Professionalism", there is a section called Teaching, which requires a Junior Doctor to have the following skills by the end of

requirements for junior doctors in their first two years post University medical qualification that expect these competencies to be established in that period. With little formal teaching time allocated to the attainment of these skills, junior medical officers often replicate the same teaching methodologies that they see being practised around them. Visiting Medical Officers have in most places a contractual requirement to teach junior doctors and others as part of their contract for services, sometimes with additional pay or time allocation, but not always.[14] While there are sometimes courses offered to assist doctors with teaching skills, participation in these is seldom a requirement. Specialist Colleges are only now beginning to require Fellows who will teach their College's trainees to have any training or education in adult pedagogy. The result of this "skills acquisition by absorption" is that poor teaching methods are as likely to be replicated as good ones. Poor training methodology can at the least be ineffective, and at the worst, enduringly harmful, involving shaming and public humiliation.

The Australian Medical Council requires that Specialist Colleges select supervisors with "demonstrated appropriate capability for" the role and facilitate "the training, support and professional development of supervisors". The notes in the 2015 Standards are clearer than the earlier Standards about the Colleges obligations in relation to the selection and training of supervisors. In addition to knowing the program requirements, they are to "have skills in adult learning, in providing constructive feedback to trainees, and in responding appropriately to concerns" in the education of trainee specialists and the need for training and resources to support these roles[15]. They also focus on supervisor's responsibilities for patient safety and detecting and helping the "trainee in difficulties". The Specialist College Standards do not have specific educational requirements for trainers and supervisors. In most Australian jurisdictions, such requirements do not exist in the pre-vocational

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that period of their training: Plans, develops & conducts teaching sessions for peers & juniors; Uses varied approaches to teaching small & large groups; Incorporates teaching into clinical work; and Evaluates & responds to feedback on own teaching.

[14] See eg, the ACT's *Health (Visiting Medical Officers Core Conditions) Determination 2013*, clause 14, relating to teaching. The VMO is expected to teach and train postgraduate medical and dental officers as part of their normal sessions and ward-rounds. Additional payments for formal teaching outside these circumstances can be paid if agreed in advance with the Director-General of Health.

[15] Australian Medical Council Specialist Education Accreditation Committee. *Standards for Assessment and Accreditation of Specialist Medical Education Programs and Professional Development Programs by the Australian Medical Council. 2015* Standard 8.1.3, page 23: available at http://www.amc.org.au/accreditation/medical-education

accreditation sphere[16], covering the intern training period and post-graduate year 2, in most Australian jurisdictions. In both cases, the regulatory requirements for the training to support supervisors is "light touch", and to a large extent, junior doctors report that the education methods and skills used by supervisors and trainers are highly variable across hospitals and within hospitals. While the standards also require Colleges to collect supervisor feedback, there is reluctance among many junior doctors to provide negative feedback, even anonymously. The small number of junior doctors in a specific area or under a specific supervisor allows their ready identification. Providing negative feedback about a supervisor or complaining about inappropriate or sub-standard training is seen as a career limiting move[17].

While those responsible for training programs often recognise that the lack of consistent skills in training can lead to variable training experiences, there has been a reluctance to compel trainers and supervisors to undergo training. Colleges and hospitals depend on the co-operation of supervisors and trainers for what is often an unpaid additional responsibility. Should additional requirements be imposed upon supervisors and trainers, there is a general concern raised by hospital administrators that doctors may seek additional reimbursement. While this may also be a concern for Colleges, another concern appears to be that College Fellows will not volunteer for these roles if they are seen as too burdensome and to take away from their capacity to generate income. In a recent Royal Australasian College of Surgeons study, commercial gain was identified as an important motivator for a significant proportion of Fellows, and the desire to maintain market share was a driver of uncooperative behaviour between surgeons[18]. An awareness of potential costs and of the

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[16]   The Australian Medical Council (AMC) accredits State and Territory-based Postgraduate/Prevocational Education Councils, who (in turn) accredit training positions for Postgraduate Year 1 (PGY1) and PGY2 Medical Practitioners. Post Graduate Year 1 training positions are required to be accredited to a set of standards agreed between the AMC and the Medical Board of Australia (MBA). These standards require hospitals which employ PGY1 and 2 medical graduates to place them in accredited positions for the trainees to become qualified to practice independently through satisfactory completion of PGY1. Accredited position must meet the standards established by the various State and Territory based Councils, and approved by the AMC through their accreditation of the various Councils.

[17]   KPMG. *ACT Health Review of the Clinical Training Culture – the Canberra Hospital and Health Services*. September 2015 (KPMG TCH Review 2015): see page 36 especially, but there are many other instances noted in the Report.

[18]   RACS EAG Report 2015 – see note 10: page 12.

limited reservoir of willing volunteers has constrained efforts to require proper pedagogical training for Specialist supervisors and trainers and other Intern and Resident trainers.

An apprenticeship model of training can entrench poor practices – both clinical and professional – over generations, with little chance of detection. For example, in a recent Report of a Review of the Clinical Training Culture in the Canberra Hospital and Health Services[19] 76% of written submissions said they had observed behaviours that condoned or accepted bullying, discrimination and harassment. It was hypothesised by those in focus groups and submissions that senior doctors who were behaving in a bullying fashion had experienced bullying themselves in the past and thus had an attitude of "We survived. You should be able to do the same".[20] While many trainees and others saw these behaviours were unsatisfactory, there was a low incidence of formal complaints because the vulnerability of young doctors in the training hierarchy, a culture of resignation and the "fierce competition" for training places. These all increased the power differential between the trainees and supervisors who described their situation as a "master/servant mentality".[21]

The recent Royal Australasian College of Surgeons *Report of the Expert Advisory Group on Discrimination, Bullying and Sexual Harassment*[22] gives many examples of the downsides of the apprenticeship model, where the power exercised by the Master is not subject to adequate, transparent scrutiny, appropriate ethical obligations and means of accountability. This review was commissioned by the Royal Australasian College of Surgeons following the press coverage associated with the Tam/McMullin whistleblowing incident discussed later in this chapter[23]. The Report, released in September 2015, demonstrated that discrimination, bullying and sexual harassment were "pervasive and serious problems in the practice of surgery in Australia and New Zealand". Like the Canberra Review, there was extensive evidence of a "culture of fear and reprisal":

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[19] KPMG TCH Review 2015 – see note 17.

[20] KPMG TCH Review 2015 – see note 17: at page 13.

[21] KPMG TCH Review 2015 – see note 17: at pages 44-46.

[22] RACS EAG Report 2015 – see note 10.

[23] See Thesis below at page 302 and following.

> Making a complaint is 'career suicide'. People are afraid to raise an issue or make a complaint, fearing risk to their traineeship or their career and livelihood.[24]

This was described as the single biggest reason allowing perpetrators to continue their bad behaviour. The association with hierarchical power was clear: senior surgeons and surgical consultants were reported as the primary source of these problems, with "abuse of power and authority a significant cultural issue".[25] The Report also saw the "lack of teaching skills and ignorance of contemporary adult education models" as direct contributors to "bad behaviour in general and bullying in particular". It also noted that "many teachers teach the way they were taught, using humiliation and bullying"[26]. The College has responded by accepting in full the report and recommendations of the Expert Advisory Group and apologising publicly for behaviours which "have been too long tolerated and have compromised the personal and professional lives of many in the health workforce"[27].

The consequences of the apprenticeship model of training, so far as the Doctor Identity is concerned, are to oblige compliance with the practices and mores associated with the dominant doctor identity. The requirements to model observed behaviour and to learn from the experience of those who can exercise real power over a doctor's capacity to work, earn and prosper encourages conformity with dominant behavioural norms. Tribal loyalty requirements, discussed later in this chapter, lead people to be silent, even when they think something is wrong.

The consolidation of the Doctor Identity through training provided under the apprenticeship model encourages the dominance of a single kind of Doctor Identity, which is vulnerable to the threats posed by medical error and patient harm. This creates secrecy for individuals when errors and harm occur, and shared lies about what actually happens in healthcare. It permits shaming and humiliation in training, so that doctors' threat mechanisms are primed. High levels of consequent anxiety provide a stressful background to their working lives.

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[24]   RACS EAG Report 2015 – see note 10: at page 5.

[25]   RACS EAG Report 2015 – see note 10: at pages 4, 7-8.

[26]   RACS EAG Report 2015 – see note 10: at pages 8-9.

[27]   Royal Australasian College of Surgeons. *RACS apologises for discrimination, bullying and sexual harassment.* Media Release, dated 10 September 2015. Available at: http://www.surgeons.org/news/racs-apologises/

The inaccurate "perfect performance" schema is supported through many of the power dynamics and hierarchies that infuse all parts of the hospital system. This has facilitated the continuation of practices and thought processes that deliver negative outcomes for patients and doctors alike.

C.   Reinforcing and maintaining the Doctor Identity

During and after a doctor's training, there are a range of external reinforcers that support and maintain the Doctor Identity. These social supports for the consolidation and maintenance of the Doctor Identity often create or increase the positive feelings someone has about him or herself. Some of these are tangible – like a higher than average income and some status privileges. Some are important but intangible, such as power, trust and prestige. At its most basic level, where there is a threat to the Doctor Identity, for many doctors there will be a compounding fear that the loss of identity could have a profound economic effect on them and their dependants.

The second set of reinforcers comes from the representations of doctors in historic and present day cultural narratives, which generally show doctors in a positive, affirming and sometimes heroic, light. At its most sacrificial level, there is the doctor whose life is encapsulated in World Medical Association's Declaration of Geneva which has been recommitted to many times, since its creation in 1948. This states:

> At the time of being admitted as a member of the medical profession, I solemnly pledge to consecrate my life to the service of humanity.[28]

The stories of some doctors living such "consecrated" lives appear in medical culture and in the popular mind. Modern examples include doctors working as volunteers, for example, with *Medecins Sans Frontieres* (Doctors without Borders). The doctors engage in humanitarian work in areas of armed conflict, natural disasters, neglected people and refugees and displaced people. They also campaign on issues like proper access to medicines for everybody who needs them, for help for various preventable and curable diseases of poorer countries, and for research on diseases common in economically

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[28]   See http://www.wma.net/en/30publications/10policies/g1/index.html : sighted on 12 February 2015.

disadvantaged countries that are often neglected in the research of more economically advantaged countries.[29] Other examples in the popular imagination are doctors working in areas of poverty, with marginalised patients[30]. However, there are many other images in the media and cultural narratives about doctors that influence how doctors see their own identity as a Doctor. These can be powerful reinforcers of various behaviours or self-beliefs, some of which may be conducive to patient safety and some of which may not.

1.   Power, Privilege and Money

The selection and formation process for entering medical education reinforces the person's own perceptions of their own capacities and abilities, as discussed in Chapter 5. Once in practice, these beliefs are reinforced by the legal and psycho-social power, the privilege and prestige associated with being a doctor and the socio-economic power generally associated with being a doctor. In the latter case, the earnings that are possible through becoming a doctor exceed most other careers, and the personal privilege flowing from being a doctor add to its attractiveness. Deeply embedded in the Doctor Identity is also the concept of power – at its most basic, power over life and death.

The doctor's "power" in healthcare is both multi-faceted and pervasive. Brody divides the physician's power into three areas[31]. There is the power which comes directly from a doctor's "training in the discipline and the art and craft of medicine" – called by Brody "Aesculapian power". There is a sense of personal power and personality characteristics independent of this knowledge, which Brody calls "charismatic power". The third kind of power comes from the high social status and often high socio-economic status of doctors and Brody calls it "social power." The pervasive impact of these different kinds of power on an individual's self-identity comes because the combination results in real power over others, over their life and death. These create a strong psychological framework around

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[29]   See http://www.doctorswithoutborders.org/our-work : sighted 13 February 2015.

[30]   See eg, Hilfiker D. *Not all of us are saints – a doctor's journey with the poor*. 1994 Hill and Wang, New York, which tells of his work in the Community of Hope Health Services in a poverty-stricken part of Washington DC and Joseph House, a residential facility for homeless men in the final stages of AIDS.

[31]   Brody H. *The Healer's Power*. 1992 Yale University Press, New Haven (USA): pages 16-17.

which the Doctor Identity and worldview is shaped. These powers with other aspects of privilege compound each other:

> If physicians either are drawn from the higher socio-economic and educational classes or rise to them upon entering medical practice, then cultural power will be mixed with the power gained from high social status alone. That power will appear more prominent when the patient is of relatively low socioeconomic status. The physician will live in a certain neighbourhood, wear certain clothes, drive a certain car, and use language in a way that tends to cause others in society to defer to her wishes, even when the influences of cultural, charismatic and Aesculapian power are corrected for.[32]

Brody also argues that where healing fails and the patient cannot be healed, or where the treatment may not be effective, as was historically the case, the charismatic and social power of a doctor could trigger the placebo effect in a patient to encourage the body's own healing independently of the treatment. Where this did not occur, the doctor could provide comfort and reassurance that "everything that could be done was done".[33] Brody concludes that "The skilful use of charismatic and social power kept medicine successful over the centuries when Aesculapian power was relatively empty of effective interventions."[34] The knowledge-based power of medicine and these broader powers are intertwined with the vulnerability of people when they are ill and dependent upon the knowledge and skills of the doctor.[35]

Such power is reinforced or exemplified by exclusive (or near exclusive) legal powers, for example to prescribe many different drugs, to declare a person legally incompetent, to subject someone to confinement against their will in a mental hospital, to certify illness for leave purposes in employment. In a study of doctors who became patients, the impact of these real powers on a doctor's self-concept is well-illustrated by one study participant:

> We have the right to give drugs and do things that no other human being has. I can put a needle into your spine and thread a wire up it. I have this tremendous power over people, and therefore maybe over myself. Maybe I can keep anything bad from happening to me, because I know that if I am diligent, I can keep anything bad

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[32]   Brody 1992 - see note 31: at page 18.

[33]   Brody 1992 - see note 31: pages 18-19.

[34]   Brody 1992 - see note 31: page 19.

[35]   Starr P. *The social transformation of American Medicine – the rise of a sovereign profession and the making of a vast industry.* 1982 Basic Books, New York: Introduction, page 4.

from happening to patients. If something bad does happen to a patient, I think,
"How could it have happened? I was perfect."[36]

Historically, this sense of personal power linked to the Doctor Identity has been reinforced by actions and recommended behaviours, designed to ensure that a doctor is seen by others as being of a higher status. For example, in 1495, the learned Italian doctor and philosopher Gabriele de Zerbi published his *De Cautelis Medicorum* (Advice to medical men). He set out, among other things[37], behaviours designed to reinforce the doctor's social position. Zerbi's image of a doctor put him apart from many of the ordinary activities of life, with the aim of maintaining the confidence of patients of the power of the doctor. This meant not taking part in public festivities or hunting or public affairs, and being of the right social class to ensure his authority, but there was also a need to publicly reinforce this:

> The doctor should therefore emphasize the signs of his class. His house, said Zerbi, should be large and obvious, so that everyone knows where it is (and can reach it rapidly in emergency). His clothes and behaviour should be distinctly non-plebian (decent, but avoiding the over-dressing of the doctor who sought success by merely pleasing his patient). He should not go shopping for food and household necessities, for he would be noticed by the vulgar, which would cheapen him[38].

The historical external indicia of power and status are different, but the current populist images of doctors continue to reflect analogous external indicia of economic power and social privilege in today's society. The modern stereotypical indicia, whether they are accurate or not, include frequent ownership of expensive cars, living in large houses in expensive locations, having children who attend exclusive private schools and having frequent overseas holidays (often tax deductible to attend conferences in exotic locations). The perceived power aspect of the Doctor Identity is often reinforced by such external indicia, where they exist. The existence of privilege[39], often over the lifespan of a Doctor,

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[36]   Klitzman R. *When doctors become patients*. 2008 Oxford University Press, New York: page 34.

[37]   Zerbi also included recommendations for the study required to become a physician, describes the ideal physician, and the doctor's proper attitude to the patient and their family. Linden DEJ. Gabriele Zerbi's *De cautelis medicorum* and the Tradition of Medical Prudence. 1999 *Bulletin of the History of Medicine*, volume 73(1), pages 19-37: at page 22.

[38]   French R. The Medical Ethics of Gabriele de Zerbi. Chapter 3 in Wear A. Geyer-Kordesch J. French RK. (editors) *Doctors and Ethics: The Earlier Historical Setting of Professional Ethics*. Clio Medica 24 – The Wellcome Series in the History of Medicine. 1993 Rodopi, New York, pages 72-97: pages 74-75.

[39]   The meaning of this term in this context is the unearned benefits given to people who fit into a specific social group, of which they often remain consciously unaware. One of the scholars who has written about this describes the way that people with a specific privilege may understand the corollary

can unconsciously increase feelings of superiority and hubris. McIntosh also describes the consequence of privilege as being "an invisible package of unearned assets that I can count on cashing in each day, but about which I was "meant" to remain oblivious. …privilege is like an invisible weightless knapsack of special provisions, assurances, tools, maps, codebooks, passports, visas, cloths, compass, emergency gear and blank checks."[40] The privileges which flow from the Doctor Identity may therefore not always be consciously recognised by the doctor. However, threats which might result in a loss of these privileges, through the loss of the status associated with being a doctor, will be felt as a significant psychological and possibly material threat.

There is also often a strong link between self-perceptions of power and access to economic resources. [41] For example, depending upon the way health services are funded in different countries, doctors often also have an exclusive right to perform certain treatments and to have them partly or fully reimbursed from the public purse or from other institutional funders, such as private health insurers. These are potent economic powers. Doctors' incomes are high relative to the rest of the community in many countries, which provides further social and economic reinforcement of their professional prestige and the social privilege associated with being a member of the medical profession. It provides greater economic opportunities for themselves and their families and there is generally a culturally assumed linkage between power and income[42] A significant difference also exists in both

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disadvantage eg of being black, without recognising the benefits they have every day eg from being white. McIntosh M. *White privilege and Male privilege - A personal account of coming to see correspondence through work in Women's Studies*. Working Paper 189. 1988 Wellesley Centers for Women, Massachusetts (USA). Paper available at: http://nationalseedproject.org/peggy-mcintosh-s-white-privilege-papers. She argues that the obliviousness to the advantages of specific privileges fosters the maintenance of the myth of meritocracy.

[40]   McIntosh 1988 – see note 39: page 1.

[41]   The American Sociologist Charles Horton Cooley described how someone's self-image is shaped by society, through his concept of the Looking Glass Self, which includes the idea that our sense of self grows out of our social interactions with others, and our understanding of our identity is reflected on the values and attributes "seen" or judged by others. Cooley CH. *On Self and Social Organization*. Schubert HJ (editor). 1998 University of Chicago Press, Chicago: see Part III – The Self, Social Order and Social Changes.

[42]   Brody 1992- see note 31: page 208.

Australia[43] and the US[44] between the earnings of private specialists, primary care doctors and hospital employed specialists. The medical power and status differentials between the various groups in hospital hierarchies often reflect or are reinforced by income differentials[45].

High income levels can also be seen as an "objective measure" that doctors are "better than" the average. In Australia, the income of doctors is generally in the highest income quintile. In the 2011 Census, using $1,500 per week as a generous estimate of male full-time weekly earnings, only 14% of the population over 15 years had personal income above that level[46], about 30% of full-time employees and 85% of full-time employed doctors. For doctors working part-time, over 70% had earnings above that level.[47] Table 6.1 shows the breakdown of various different sub-groups in the medical practitioner occupational category by income[48].

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[43] Cheng TC. Scott A. Jeon S-H. Kalb G. Humphreys J. Joyce C. *What factors influence the earnings of GPs and Medical Specialists in Australia? Evidence from the MABEL survey*. Melbourne Institute Working Paper Series, Working Paper No. 12/10. July 2010 Melbourne Institute of Applied Economic and Social Research, Melbourne: page 10. This showed the average gross personal earnings from medical practice in 2008 as $177,883 for general practitioners and $316,570 for specialists. For GPs who were self-employed, the earnings level was 27.6% above those PS who were salaried or on contract (page 12). For specialists who were self-employed (either hospital or non-hospital based), their earnings were 26.8% higher than hospital-based salaried specialists with no right of private practice (page 13).

[44] This differential has been long-standing in the US See Brody 1992 - see note 31: pages 214-220. For recent figures see: Japsen B. Doctor pay rises to $221K for Primary Care, $396K for specialists. 2013 *Forbes – Pharma and Healthcare*, 12 June. Available at: http://www.forbes.com/sites/brucejapsen/2013/06/12/doctor-pay-rises-to-221k-for-primary-care-396k-for-specialists/ sighted 28 April 2015.

[45] The work of Helmreich and Merritt discuss the status differentials between actors in an operating theatre – different kinds of doctors, nurses, orderlies – and note that "Status inequalities in the OR are pervasive and readily observable. All physician groups have higher status than surgical and anaesthesia nurses and do not hesitate to invoke their authority. Helmreich et al. 1998 – see note 9: page 12.

[46] The 2011 census collected personal income data for all persons aged 15 years and over. People were asked to report a total of all wages and salaries, government benefits, pensions, allowances and other incomes they usually receive before deductions for tax, superannuation contributions, salary sacrifice, or other deductions, like health insurance or other automatic deductions. These were reported within 12 weekly income ranges set by ABS.

[47] These data are calculated from the 2011 Census Data using the web-based data analysis tools Table Builder. The analysis was done on the 2011 Census – Employment, income and unpaid work database.

[48] These are self-reported income levels and are normally considered by the Australian Bureau of Statistics (ABS) to be an under-estimate in most cases across the income spread and across all occupations. See Australian Bureau of Statistics. *Income data in the Census.* Factsheet. 3rd paragraph under "Points to consider when using Census income data": sighted 14 April 2015,

Table 6.1: 2011 Australian Census Data – Doctors and Employed People, by level of Personal Income

Occupational group and Labour force category		Income less than $600	$600-<$1,500	$1,500-$1,999	$2,000 or more	Total - all incomes	% Total in highest income bracket
Employed worked full-time	Generalist Medical Practitioners	206	6,300	5,522	19,614	31,642	62%
	Anaesthetists	14	58	255	2,547	2,874	89%
	Specialist Physicians	12	232	500	3,371	4,115	82%
	Psychiatrists	3	76	207	1,425	1,711	83%
	Surgeons	12	162	291	3,597	4,062	89%
	Medical Practitioners - other*	91	733	1,084	5,518	7,426	74%
	Total f/t doctors	338	7,561	7,859	36,072	51,830	70%
	All f/t employed	702,554	3,745,086	924,278	891,533	6,263,451	14%
Employed worked part-time	Generalist Medical Practitioners	420	2,528	1,718	4,482	9,148	49%
	Anaesthetists	0	43	55	562	660	85%
	Specialist Physicians	51	226	132	609	1,018	60%
	Psychiatrists	27	126	96	472	721	65%
	Surgeons	33	134	87	367	621	59%
	Medical Practitioners - other*	225	384	207	1114	1,930	58%
	Total p/t Doctors	756	3,441	2,295	7,606	14,098	54%
	All p/t employed	1,889,342	954,724	90,282	78,738	3,013,086	3%
Total employed	Generalist Medical Practitioners	626	8828	7240	24,096	40,790	59%
	Anaesthetists	14	101	310	3,109	3,534	88%
	Specialist Physicians	63	458	632	3,980	5,133	78%
	Psychiatrists	30	202	303	1897	2,432	78%
	Surgeons	45	296	378	3964	4,683	85%
	Medical Practitioners - other*	316	1117	1291	6632	9,356	71%
	Total Doctors	1,094	11,002	10,154	43,678	65,928	66%
	All employed	2,591,896	4,699,810	1,014,560	970,271	9,276,537	10%
% in different income brackets	% of all f/t employed doctors	1%	15%	15%	70%	100%	
	% of all employed doctors	2%	17%	15%	66%	100%	
	% of all f/t employed	11%	60%	15%	14%	100%	
	% of all employed	28%	51%	11%	10%	100%	

Source: Specific data drawn from Employment, income and unpaid work database of the 2011 Census, held by the Australian Bureau of Statistics and accessed through Table Builder.

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http://www.abs.gov.au/websitedbs/censushome.nsf/home/factsheetsuid?opendocument&navpos=450 . Only census income data has been used in this analysis, because the estimates of income used are different than the methods used in other ABS income/earnings series. The income categorisation used was based on the ABS median income figure from that census of $577 (rounded to the nearest category above that ie, the one ending at $599). The ABS income groupings above $1,500 are listed separately, because of the average male earning figure used in the ABS Doctors and Nurses publication referred to below.

The Doctors and Nurses Study[49] based its estimate of doctor earnings on the Australian Bureau of Statistics Survey of Employee Earning and Hours. In that Study, undertaken in 2012, full-time doctors in non-managerial positions earned an average of $2,862.30 per week. There was a significant gender difference, with the figure for male doctors being $3,015.60, and female doctors being $2,644.10[50]. The equivalent figures for all occupations were $1,471.70 for men and $1,266.40 for women, with the median for that same full-time group at $1,250.00 and the overall median being $963.00 for all employees[51]. Despite this inbuilt gender disparity, at more than twice the average of other full-time workers, both male and female doctors are among the highest paid people in our society.

The self-reported data of the Census and the data in the Doctors and Nurses study are also supported by Australian Tax Office Data. 2012-13 Tax office data showed that of the 10 best paid occupations, using average taxable income from 2012-13, 6 were varieties of medical practitioner.

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[49]   ABS. *Australian Social Trend, April 2013: Doctors and Nurses*. ABS Cat No. 4102.0. 10 April 2013: at page 5 - How much do doctors and Nurses earn?

[50]   The earnings of female clinicians are significantly lower than those of male clinicians, even when controlled for hours worked – the 2010 Melbourne Institute Study of doctor income showed that the earnings of female general practitioners and specialists are between 17% and 25% respectively lower than male equivalent doctors. Cheng et al 2010 – see note 43: page 12 and page 16 – the higher figure of 25% is on page 12 and attributed to GPs. However, there is a lower figure for the upper range of 23% on page 16. No explanation is provided nor base data to check the calculations.

The comparisons in this study controlled for different hours worked, where this was an issue The econometric model used in the study is set out in the report – see Cheng et al 2010 – see note 43: at pages 6-8. One of the authors Professor Scott noted that the differential between the earnings of male and female General Practitioners, exceeded the national gender earnings disparity of 20.7% Melbourne Institute of Applied Economic and Social Research. *Female GPs earn 25% less than male counterparts*. Media Statement, 21 July 2010.

Using Australian Bureau of Statistics (ABS) employee earning data, also shows that female medical practitioners work less than one hour less than male medical practitioners for 87% of the income. ABS. *Employee Earnings and Hours, Australia, May 2012*. ABS Cat No. 6306.0, released 23 January 2013: at page 2 – Headline results.

[51]   ABS 2010 – see note 50: at page 2 – Headline results.

Table 6.2: Australia's 10 best paid occupations 2012-13

	Occupation	No. of individuals	Average taxable income
1	Surgeons	3,570	$361,202
2	Anaesthetists	3,015	$319,033
3	Internal Medicine Specialists	7,525	$263,601
4	Financial dealers	5,090	$219,213
5	Judicial and other legal professionals	2,645	$192,189
6	Psychiatrists	2,610	$186,778
7	Mining Engineers	9,595	$166,410
8	Other medical practitioners	30,455	$166,025
9	Chief executives and Managing Directors	146,355	$152,364
10	Generalist medical practitioners	23,430	$144,498

Source: Australian Tax Office. *Media Release – Australia's highest earners revealed.* 29 April 2015. These income figures are after costs of practice and other tax deductions are removed.

While the income measures used in these various data are not measuring exactly the same thing, they consistently show that doctors in Australia are in the highest income earning groups in the community. In a society where income level is correlated with social status, health and social "worth", income can be a powerful reinforcer of the positive self-perception and hierarchical power of doctors. Combined with the high socio-economic backgrounds of many who enter medicine, discussed in Chapter 5, the high levels of income will directly reinforce the privilege associated with being a doctor and provide practical, material purpose to protecting the Doctor Identity.

However, where the importance of maintenance of income, and its associated power and privileges, become a motivational priority, this can have a number of negative consequences so far as patient safety is concerned. The linkage between high income and power, and the doctor's altruistic obligations discussed above, creates ethical problems for the medical profession and individual doctors, especially in fee-for-service based medicine. In these situations, the doctor's own income is contingent on the provision of a service, payable by the patient. Because doctors advise on the existence of a condition and the most

appropriate treatment for that condition[52], they are in a position of great power and influence over the choices made by a patient or family, and many of these can substantially financially benefit the doctor. The issue of the impact of high income on doctors' practices has been a concern historically. The famous 15th Century physician Paracelsus, for example, describes the true physician as treating "the sick 'out of love for his neighbour', in contrast to the 'wolf doctor', who only thinks of financial gain".[53]

The ethical issue is not the financial benefit directly, but the conscious and even unconscious incentive there will be for a doctor to promote options which may benefit the doctor and not necessarily be the safest, best or preferred option of the patient. Pellegrino describes the risk to physician virtue in these situations in this manner:

> [T]here remains the inescapable human inclination to compromise integrity in the cause of self-interest. As a result, scientific data, research protocols, the context of scientific or technical consultations, and the management of patients in clinical investigations may subtly be or overtly shaped to please the funding source[54].

There are also examples of where doctors enlist their patients or potential patients in debates with Government about medical fee levels, where it is mainly the doctor's income level which is at risk[55]. Similarly, when doctors provide governments with "policy advice",

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[52]   Indeed, there is evidence that medicine as the "delineator of pathology" is now able to define problems once recognised as personal characteristics (eg easily feeling embarrassment or being a certain weight), or economic issues or social phenomena (eg the current socio-economic determinants of health) as either illnesses or as part of the domain of influence of medicine. See eg, Freidson E. *Profession of Medicine: A Study of the Sociology of Applied Knowledge*. 1970 (2nd edition -1988 Impress) University of Chicago Press, Chicago: Chapter 12, pages 244-277. See also Freidson E. *Professional Dominance – the Social Structure of Medical Care*. 1970 (reissued in 2007) Aldine Transaction Publishers, New Brunswick (NJ. USA): at page 147.

[53]   Bergdolt K. The discourses of practitioners in Medieval and Renaissance Europe. Chapter 26 in Baker RB and McCullough LB.(editors) *The Cambridge World History of Ethics*. Book DOI: http://dx.doi.org/10.1017/CHOL9780521888790 online publication date May 2012. 2008 Cambridge University Press, Cambridge (UK): page 377.

[54]   Pellegrino ED. Thomasma DC. *The Virtues in Medical Practice*. 1993 Oxford University Press, New York: at page 171.

[55]   In 2009 the Australian Government sought to reduce the Medicare rebate payable for cataract surgery, because new technology had reduced what was once a lengthy and complicated procedure to one which was now simple and inexpensive. The reduction was designed to ensure that Medicare rebates were commensurate with the effort required to carry out the procedure. Reports stated that the income of many ophthalmologists exceeded $1 million per year. The ophthalmologists were reported to have warned their elderly patients that prices to them would therefore rise, and engaged them in an ultimately successful political campaign to reduce the savings sought by Government. Alexander H. Medew J. Harrison D. Doctors' fees under microscope. 2015 *The Canberra Times* – Forum, 24 January, page 4.

they will often promote their own economic interests, thinly disguised in a veneer of patient interest.[56] To a large extent then, the socio-economic power, income and privilege associated with the Doctor Identity creates a rich environment of conflicting values. As discussed in Chapter 5[57], these conflicts can generate significant psychological turmoil, as doctors are faced with two conflicting cognitively dissonant pictures of their actions and motivations. Once again, these can reinforce and normalise a tendency not to think too much about the apparent conflict, but to engage in "non-reflective professionalism"[58] discussed in Chapter 5. In this case, the patient's and doctor's interests are conflated to the economic benefit of the doctor, as a way of resolving the potential cognitive dissonance in the individual doctor's mind and in the professional group's collective mind-set.

The recent Report for the Royal Australian College of Surgeons also showed a range of negative impacts on medical culture from a focus on maximising commercial gain, including:

- Bullying and lack of cooperation with colleagues driven by desire to maintain market share;

- Actual or potential compromised assessments of international medical graduates who may become future competitors;

- Separating real performance concerns from competitors or new entrants into the market, when the assessors have a personal stake in minimising competition.[59]

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[56]   For example, doctors will promote fee for service medicine (which can provide them with direct control over often a much greater income stream than other forms of payment) by saying it provides greater consumer choice, when for many patients, this form of funding may actively undermine their capacity to access medical services at all. Another Australian example is where the medical profession has opposed the creation of publicly funded fee-for-service reimbursement of nurse practitioner roles, not because of direct fear of competition but on the basis of patient health and safety. See Keating T. Trasancos C. The development of Nurse Practitioner Policy. Chapter in Lin V. Gibson B. *Evidence – based Health Policy – problems and possibilities.* 2003 Oxford University Press, Melbourne, pages 144-155.

[57]   Hilfiker D. *Healing the Wounds: A physician looks at his work.* 1985 Pantheon Books, New York: page 177.

[58]   Another analogous explanation for this behaviour can be found in the work of the philosopher Alasdair MacIntyre, who talks about compartmentalisation between work roles and someone's own moral code, and the challenge and courage required of a moral agent to work across these thought compartments. Macintyre A. Social structures and their threats to moral agency. 1999 *Philosophy*, volume 74, pages 311-329 at 321.

[59]   RACS EAG Report 2015 – see note 10: at page 12.

So far as consolidation and maintenance of the Doctor Identity is concerned, it is arguable that the economic and social rewards associated with "being a doctor" are extremely powerful drivers to encourage someone to remain as a doctor. The competitive nature of at least some parts of the profession also cause conflicts with ethical standards requiring the "effacement of self-interest". Pellegrino and Thomasma argue that this altruistic beneficence has been deeply eroded with the general rise of self-interest in society and the tension this has created, leading to "the moral malaise of the profession".

The tension between the stated ethical goals of the profession and the personal imperatives to maintain income and associated privileges appear to sometimes be resolved through unconsciously placing priority on these external reinforcers of the Doctor Identity. Sometimes this can have a direct negative impact on patient safety for example, by exposing a patient to the risks of unnecessary treatment. It can also decrease the incentive to recognise and act on preventable patient harm, particularly, where to do so, may give rise to addition costs or to a threat to professional kudos. Perhaps the greatest potentially negative impact is the additional magnification of the "fear of loss" that can arise with a threat to Identity, when the potential loss of this identity would also put income, privilege, and power at risk.

2.   Medical Narrative and media stereotypes of the Doctor

The Doctor identity is influenced intensely by doctors seeing themselves and being seen by the public as members of a profession. Since the late medieval period, medicine has been considered one of the classic "learned" professions, behind theology and next to law.[60] Medicine's role, influence, scope and means of operation as a profession have varied much over the centuries[61]. In modern times, it is probably considered the quintessential profession, with even a greater significance than was historically the case, because of its

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[60]   O'Day R. *The Professions in Early Modern England, 1450-1800: Servants of the Commonweal.* 2000 Pearson Education, Harlow (England).

[61]   Pelling M. *The Common Lot – Sickness, medical occupations and the urban poor in Early Modern England.* 1998 Addison Wesley and Longman Ltd, London (UK): see Part III- Occupations, especially Chapter 9 on barber surgeons and Chapter 10 on medical practitioners.

connection to modern science and technology[62]. Some of the key elements traditionally associated with being a profession are:

- A body of complex knowledge and skills;
- Altruism/ public service;
- Ethical codes or standards;
- The existence of a "contract" with society in exchange for monopoly powers;
- Autonomy and self-regulation; and
- Control of entry into the profession.

While many aspects of being a profession or professional have changed over time[63]., there are some of these elements which remain in the popular imagination, sometimes supported by laws, including the ethical and service expectations of the medical profession[64].

Some of these have deep cultural roots in the medical narrative. An example of this is the frequent references to Hippocrates and to his oath, as the basis for both the practice and ethics of modern medicine, more than 2000 years after its genesis. Despite clear debate

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[62]   See discussion by Friedson 1970, 1988 Impress – see note 52: page xviii.

[63]   Self-regulation is one of the areas of change, with Governments in many places increasing their regulatory control, particularly where patient safety is concerned. For example, since July 2010 in Australia, the Australian Health Professions Regulatory Authority has provided a national government regulatory framework based on registration, which now covers 14 health professions. In the Intergovernmental agreement which was the basis for this scheme, the Commonwealth, State and Territory ministers listed the criteria they considered relevant for including any other groups claiming that their profession should also be covered by the national system in Attachment B to the Intergovernmental Agreement for a National Registration and Accreditation Scheme for the Health Professions dated 26 March 2008: at pages 22-24.

[64]   See eg, Medical Board of Australia. *Good medical practice: a Code of Conduct for Doctors in Australia*. March 2014. The purpose of this Code according to the Medical Board of Australia is to inform doctors of what is expected of all doctors registered in Australia and to inform the community what it can expect from doctors. Sighted 4 November 2015. The original version was prepared by the Australian Medical Council: Australian Medical Council (AMC). *Good Medical Practice: A Code of Conduct for Doctors in Australia*- Developed by a working party of the Australian Medical Council on behalf of the medical boards of the Australian states and territories. July 2009 AMC, Canberra. The most recent version is available at http://www.medicalboard.gov.au/Codes-Guidelines-Policies/Code-of-conduct.aspx.

about the Oath's authorship[65], continuity of use[66] and its relevance to modern medicine[67], as well as its lack of use in Australian Medical Schools[68], it is still drawn on as a source of historic and moral gravitas by Australian doctors in the public domain[69]. For example, in 2014, in the public debate about the medical use of marijuana in Australia, the then President of the Royal Australasian College of Physicians relied on this associated gravitas, when he wrote "The doctors' Hippocratic oath "to first, do no harm" guides my conduct".[70] Thus, even though the reference is to a phrase not even part of the Oath[71], there is sufficient

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[65]   Compare: Nutton V. Medicine in the Greek World. Chapter 1 in Conrad LI. Neve M. Nutton V. Porter R. Wear A. (editors and Members of the Academic Unit, the Wellcome Institute for the History of Medicine, London). *The Western Medical Tradition 800 BC to 1800 AD.* 1995 Cambridge University Press, Cambridge (UK); with Wootten D. *Bad Medicine – Doctors doing harm since Hippocrates.* 2007 Oxford University Press, Oxford: page 5. See also, Farnell LR. *Greek Hero Cults and the ideas of immortality*, 1920 The Gifford Lectures delivered at the University of St Andrews. 1921 Clarendon Press, Oxford: page 269: accessed through the Internet Archive on 20 March 2015: https://archive.org/stream/greekherocultsid00farnuoft#page/n5/mode/2up

[66]   See Nutton 1995 - see note 65: page 29; see also Wootton D. – see note 65: page 5.

[67]   See eg, Kerä L. The Hippocratic Oath as epideictic rhetoric: reanimating medicine's past for its future. 2001 *Journal of Medical Humanities*, volume 22 (1), pages 55- 68.

[68]   In a 2002 study of the use of ethical declaration s associated with medical graduation in Australia and New Zealand, only one University used a modified Hippocratic Oath. Five use the 1949 Geneva Declaration of the World Medical Association or a modification of that and one (University of New South Wales) allowed the final year medical students to collectively determine their own. McNeill PM. Dowton SB. Declarations made by graduating medical students in Australia and New Zealand. 2002 *Medical Journal of Australia*, 4 February, volume 176, pages 123-125.

[69]   For example, a search on the content of a newspaper for Australian general practitioners, called *Australian Doctor*, for the period between September 2005 and March 2010 has at least 30 references to Hippocrates. These relate to topics as diverse as: opposition to Medicare audits of doctors (Sahari S. Medicare's new powers overstep the mark *Australian Doctor* 22 August 2008: page 24); service to the Northern Territory health system (McNamara S. NT starved of doctors despite initiative. *Australian Doctor.* 17 October 2008: page 13; teaching in general practice (Grist J. Road to excellence. *Australian Doctor.* 3 October 2008, page 46); making profits in medical practice (Parnell K. Hard evidence needed to tackle overservicing. *Australian Doctor*, 10 February 2006, page 18); and the ethics of medical reality television and television reporting of medical intrusions on Saddam Hussein after his capture (McCredie J. As seen on TV. *Australian Doctor*. 17 March 2006: page 17).

[70]   Professor Nicholas Talley (President of the Royal Australian College of Physicians). RACP head says it's time for clinical trials for marijuana. 2014 *Canberra Times*. 3 September. Sighted 20 March 2015 at http://www.canberratimes.com.au/comment/racp-head-says-its-time-for-clinical-trials-for-marijuana-20140903-10bt06.html.

[71]   An Hippocratean reference exists in *Epidemics*, Book 1, Chapter 2, Part 11, in a section about using bowel movements to predict the progress of a disease, the Hippocratean author says "Declare the past, diagnose the present, foretell the future; practise these acts. As to diseases, make a habit of two things- -to help, or at least to do no harm. The art has three factors, the disease, the patient, the physician. The physician is the servant of the art. The patient must co-operate with the physician in combating the disease." For a more detailed history of the phrase "Primum Non Nocere – First, do no harm", which is of much more recent origin, see Smith CM. Origins and Uses *of Primum Non Nocere* – Above All - Do No Harm! 2005 *Journal of Clinical Pharmacology*, volume 45, pages 371-377.

cultural meaning for both the doctor and the audience to understand the serious medical nature of his statement.

Our society's understanding and picture of medicine are underpinned at many levels by powerful narratives about what it is to be a doctor and about the nature of modern healthcare. These exist partly as a projection of the expectations of medicine as a profession. At a more complicated level, the narratives of the "miracle of modern medicine" and "heroic doctors," are driven by the human fear of illness and its consequences, and mortality. These protective narratives include:

- medical omnipotence or invulnerability[72],
- the belief that all medical services that are delivered are best practice[73]; and
- medical omniscience and the universal beneficence in healthcare[74].

While most doctors recognise that they are not omnipotent or omniscient and that medical understanding is limited and subject to revision[75], the cultural narratives are powerful, pervasive and influential within medicine, healthcare and wider society. Patients and the community often accept these stories, because when people require medical care when they

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[72]   See eg, Malterud K. Hollnagel H. The doctor who cried: a qualitative study about the doctor's vulnerability. 1995 *Annals of Family Medicine*, volume 3(4), July/August, pages 348-352: at page 348. Hardwick PJ. Lunch times eaten? 2000 *Psychiatric Bulletin*, volume 24, pages 2-27: at page 26; Banja J. *Medical errors and medical narcissism.* 2005 Jones and Barlett Publishers, Boston: see especially pages 63-68.

[73]   See eg, the recent Australian Care Track study, patients receiving care received appropriate care in 57% of their encounters (ranging from 90% for coronary heart disease to 13% for alcohol dependence): Runciman WB. Hunt TD. Hannaford NA. Hibbert PD. Westbrook JI. Colera EW. Day RO. Hindmarsh DM. McGlynn EA. Braithwaite J. CareTrack: assessing the appropriateness of health care delivery in Australia. 2012 *Medical Journal of Australia*, 16 July, volume 197(2), pages 100-105; and the 2003 US Appropriateness of Care study, which showed patients overall received 54.9% of recommended care, ranging from a high of 78.7% for senile cataracts to 10.5% for alcohol dependence: McGlynn EA. Asch SM. Adams J. Keesey J. Hicks J. DeCristofaro A. Kerr EA. The quality of health care delivered to adults in the United States. 2003 *New England Journal of Medicine*, 26 June, volume 348, pages 2635-2645.

[74]   Prasad V. Vandross A. Toomey C. Cheung M. Rho J. Quinn S. Chacko SJ. Borkar D. Gall V. Selvaraj S. Ho N. Cifu A. A decade of reversal: an analysis of 146 contradicted medical practices. 2013 *Mayo Clinic Proceedings*, August, volume 88(8), pages 790-798.

[75]   See comments on Prasad et al at note 74 by Mandrola J. Changing the culture of American Medicine – start by removing hubris, 28 July 2013 at http://www.drjohnm.org/2013/07/changing-the-culture-of-american-medicine-start-by-removing-hubris/ sighted on 21 August 2013.

are sick, they are very vulnerable[76]. The medical ethicist Edmund Pellegrino describes the problematic aspect of the necessary trust that must be placed in a professional whose services are required to heal patients. A sick or injured person is placed in what he calls a "state of special dependence" because "we are forced to trust professionals if we wish access to their knowledge and skill … to surmount or cope with our most pressing human needs"[77]. At these times, these narratives can be reassuring and can relieve the anxiety associated with the vulnerability of illness. In his 1972 critique of medicine and its effectiveness, Cochrane describes the reliance of patients on ineffective treatments and the provision of these by doctors as "a marriage of two minds – between the desire to help and the desire to be helped".[78]

Perhaps equally importantly, it is difficult to find publicly available data to contradict these narratives[79] Despite the original research of the Quality in Australian Health Care Study published two decades ago showing the high incidence of preventable harm in healthcare in Australia, there continues to be a lack of comprehensive publicly available performance and outcome reporting in most of healthcare[80]. This means patients or others involved in the public discourse about preventable patient harm have difficulty either questioning or affirming these stories from a proper evidence base.

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[76]   McKinley S. Nagy S. Stein-Parbury J. Bramwell M. Hudson J. Vulnerability and security in seriously ill patients in intensive care. 2002 *Intensive and Critical Care Nursing*, volume 18(1), February, pages 27-36.

[77]   Pellegrino et al. 1993 – see note 54: Chapter 5 – Fidelity to trust, pages 65-78: at page 65.

[78]   Cochrane AL. *Effectiveness and efficiency –random reflections on health services*. 1972 The Nuffield Provincial Hospitals Trust, Nuffield (England). Available at: http://www.nuffieldtrust.org.uk/publications/effectiveness-and-efficiency-random-reflections-health-services accessed on 24 March 2014: page 9.

[79]   Insight Economics Deloitte. *Evaluating health outcomes in Australia's healthcare system – a scoping study of potential methods and new approaches.* 2007 Australian Centre for Health Research, Melbourne: section 3.4, page 33.

[80]   The Australian Government is providing some comparative performance data though the My Healthy Communities website http://myhealthycommunities.gov.au/national and My Hospitals website http://www.myhospitals.gov.au/about-the-data/overview . While both have some data on safety and quality related data, it is very rudimentary at present. For example, My Hospitals quality and safety data covers hand-washing and hospital acquired infections only. My Health Communities data is focussed more on derivative measures of primary and specialty care quality outside of hospital, eg potentially preventable hospitalisations, barriers to accessing care; and public health related data. The absence of data on preventable patient harm remains a significant concern.

While there are often statements made about the quality of Australian healthcare, most of these are aspirational rather than factual for a number of reasons. First, there is a longstanding lack of current data on quality of care both nationally[81] and internationally[82]. Secondly, the limited available data on appropriateness of care in Australia shows less than 60% of patients receiving appropriate care[83] and that there is significant, unexplained variable in interventions across Australian healthcare[84]. Thirdly, there are widely acknowledged high levels of preventable patient harm from those studies which have been conducted as was seen in Chapter 1. Lastly, progress at achieving measurable improvements in patient safety has been acknowledged as halting and slow, partially because of this lack of data[85].

The cultural narrative most associated with modern medicine in the popular media also provide the community with comforting, inspiring tales of doctors and nurses doing their heroic best in struggles against all odds, usually with positive health outcomes for the patient.[86] These are reinforced on television through medical dramas and medical "reality" television series[87], through other media and, in some cases, by direct healthcare provider

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[81] See Australian Commission on Safety and Quality in Health Care (ACSQHC). Chapter 10 - Reporting for Safety: Use of Hospital Data to monitor and improve patient safety in ACSQHC. *Windows into Safety and Quality in Health Care*. 2010 ACSQHC, Sydney.

[82] Agency for Healthcare Research and Quality. World Health Organization (WHO) World Alliance for Patient Safety. *Knowledge is the enemy of unsafe care*. 1st meeting on the Global Research Program for Patient Safety. 1 November 2005 Meeting Summary

[83] Runciman et al. 2012 – see note 73.

[84] Australian Commission on Safety and Quality in Healthcare (ACSQHC) and the National Health Performance Authority. *Australian Atlas of Healthcare Variation*. 2015 ACSQHC, Sydney.

[85] See eg, Pham JC. Frick KD. Pronovost PJ. Why we don't know whether care is safe? 2013 *American Journal of Medical Quality*, volume 28(6), pages 457-463; Berwick DM. My Right Knee. 2005 *Annals of Internal Medicine*. 18 January, volume 142(2), health module, page 121-125; Makary MA. Daniel M. Medical error – the third leading cause of death in the US. 2016 *British Medical Journal*, 3 May, volume 353, page i2139 : doi: http://dx.doi.org.virtual.anu.edu.au/10.1136/bmj.i2139

[86] See eg, a search of You tube shows many presentations on medical miracles, some of which are patient stories mediated by a journalist, some of which are promotional videos of an institution around a patient story eg: http://www.youtube.com/watch?v=nWtPQak2cYk , http://www.youtube.com/watch?v=u8NSH4272QY , http://www.youtube.com/watch?v=wJnuK3yAwl0

[87] In a Ranker listing of the best medical "reality tv shows", they are described in the following manner:

> The best medical reality shows are those that present fascinating, challenging medical cases and then let viewers see how patients are treated. The subject matter in a great medical reality TV show is often bizarre (or at the very least, slightly unusual), and the doctors, nurses and other medical staff involved in treatment are charismatic.

self-promotion through advertising and other means[88]. The beliefs promoted in these stories is that healthcare delivers miracles[89], and that doctors, as leaders in these miracles, are able to transcend the scourge of illness, infertility and death through extraordinary skill and almost super-human power. In many ways, the narrative is that of a medieval chivalric tale, with the disease as dragon, the patient as the person requiring rescue and the doctor or medical team as the heroic knight or band of knights. While at some level most doctors are aware of the mythical nature of the narrative, it nonetheless can provide significant psychological comfort and a potential alternative when cognitive dissonance arises and identity is threatened, because of preventable patient harm. This can more easily be reframed as one of the necessary casualties in an heroic battle against illness and mortality.

Where someone dies in medical care, the pervasive cultural story can provide comfort to provider and family alike. The explanation is framed in terms of the inevitability of death because the odds against survival were just too high. The person was too old or too sick or otherwise unable to "win the fight". They were in the final stages of life, and were suffering from horrendously complex conditions. If this is not the case, then there are other exculpatory narratives that say almost all adverse events arise from system problems and are not the responsibility of individual doctors or health professionals. In this larger cultural narrative, victories over mortality belong to the doctors, and failures belong to the patient, "the system" or the overwhelming power of the adversary disease. These narrative protects doctors, patients and families alike from the much less comforting picture provided by the limited data that exists. They provide a strong buttress to support and protect the Doctor Identity when preventable patient harm occurs, and provide a useful, often unquestioningly acceptable justification for the negative outcomes of care for patients and families.

See: http://www.ranker.com/list/best-reality-medical-shows/tvs-frank : accessed 5 November 2013. Some Australian examples are *Last Chance Surgery*, presented by a past president of the Australian Medical Association, and *RPA*, which has been running since 1995 and is promoted as "capturing the compelling around-the-clock drama of the Royal Prince Alfred Hospital in Sydney".

[88] See eg, the role of women's magazines in the promotion of plastic surgery and individual plastic surgeons: Sullivan DA. *Cosmetic surgery: the cutting edge of commercial medicine in America*. 2001 Rutgers University Press, New Jersey (USA): see especially chapter 7, pages 155-186.

[89] See eg, The Huffington Post, Medical Miracles at http://www.huffingtonpost.com/tag/medical-miracles ; The Mirror, Medical miracles at http://www.mirror.co.uk/all-about/medical%20miracles.

Where a story of unsafe care or some other professionally inappropriate conduct becomes headline news in the media, the underlying power of the heroic cultural story come in to separate this individual or facility from the rest of the profession and the protective statutory edifices put up to protect the public from "rogues". This is made easier where the doctor is seen as an outsider, such as the overseas-trained surgeon Dr Patel in Bundaberg who was labelled in the media as Dr Death[90], or someone who is mentally ill, such as the so-called "Butcher of Bega" Dr Graeme Reeve[91]. Such extreme categorisations serve to exclude these behaviours and the doctors concerned from tainting the cultural narrative of doctors as intrinsically heroic and caring. These people become to be seen as aberrations and "non-doctors". They are often portrayed as the cultural opposite of "the Doctor Identity", rather than examples upon the spectrum of doctor performance.

The heroic and caring cultural stories remain untainted, despite there usually being significant evidence that there was wide knowledge of problems amongst colleagues and nothing was done by them to protect patients. Further, even though in these cases, both practitioners had already had formal limitations placed on their practices in other places, the Statutory and professional "guardians of the practice gate" were ineffective to protect other patients from harm. In some cases, while the hospitals or individuals subject to investigation are held up as the epitome of evil or examples of practice way outside the boundaries, often the differences between "normal practice" and what is uncovered are shades of grey rather than the black and white ends of the spectrum. The quarantining of the moral or practice failures to those individuals and organisations that are able to be "othered" ensures they are excluded from the Doctor Identity[92].

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[90]   Lessons from Dr Death. Editorial, *Sydney Morning Herald*, 26 April 2005, sighted at http://www.smh.com.au/news/Editorial/Lessons-from-Dr-Death/2005/04/25/1114281502583.html on 15 June 2015.

[91]   Carroll L. 'Butcher of Bega' Graeme Reeves released from jail, *Sydney Morning Herald,* 28 December 2013: sighted at http://www.smh.com.au/nsw/butcher-of-bega-graeme-reeves-released-from-jail-20131228-300fo.html.

[92]   This is analogous to the analysis of Eichmann in Hannah Arendt's classic analysis of his trial in Jerusalem. In her analysis, evil was not committed by demons or monsters, but often by very ordinary people – what she describes as the "banality of evil", which came from a failure to think, empathise and consider the moral and practical consequences of one's actions. Arendt H. *Eichmann in Jerusalem – A Report on the Banality of Evil*. 2006 Penguin Books, New York: see particularly the introduction by Amos Elon and the Epilogue and Postscript, pages 253-298.

In practical terms, to acknowledge and act as if healthcare was as unsafe as the limited data shows would fundamentally challenge the beneficence narrative of healthcare. This would increase a patient's sense of vulnerability, when their lives are placed in the hands of doctors and healthcare services through illness and injury. While it is the law in Australia[93] that all healthcare consumers should be given sufficient information to understand the risks and benefits associated with any proposed healthcare treatment, such information can increase the stress associated with healthcare, especially when the need for treatment is both urgent and life-saving. The psychological effects of bringing the frequency and seriousness of preventable patient harm to the conscious awareness of both consumers and providers, therefore, can be quite unsettling for both groups. In this situation, the powerful cultural narrative of healthcare acts as a defensive bulwark against an open acknowledgement of the need to act urgently to address patient safety.

The lack of on-going data collection on patient outcomes and preventable patient harm across much of healthcare also serves a useful purpose. It enables health professionals and the health system to maintain the cultural narrative about its quality and commitment to care and to minimise any urgency for action on recognised areas of concern. The lack of truth and transparency also serves a silencing function across the system. If the ubiquity of error is not openly acknowledged, then the medical narrative is perpetuated and strengthened, and the community and the doctor's worldview around medicine remains unquestioned. This was generally observed in relation to types of work where mistakes were common more than 60 years ago. Everett Hughes in his 1951 essay on *Mistakes at work* noted that, in these circumstances:

> The colleague-group will consider that it alone fully understands the technical contingencies, and that it should therefore be given the sole right to say when a mistake has been made. The layman, they may contend, cannot even at best understand the contingencies. The attitude may be extended to complete silence concerning mistakes of a member of the colleague group because the very discussion before a larger audience may imply the right of a layman to make a judgment that is most jealously guarded. [94]

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93   The duty to disclose risk to a patient was set out in detail in the 1992 High Court case of *Rogers v Whitaker* [1992] HCA 58; (1992) 175 CLR 479 (19 November 1992).

94   Hughes EC. Mistakes at Work. 1951 *Canadian Journal of Economics and Political Science*, August, volume 17(3), pages 320-327: at pages 323-324.

Hughes notes that this silence extends to not drawing attention to the mistakes of colleagues, not discussing mistakes among themselves and remaining tight-lipped even where matters come to public attention. These actions are also illustrated in the section below on tribal behaviours. Hughes also describes the high level of anxiety generated in these circumstances.

One consequence of this is that, when consumers or family members draw attention to individual cases of patient harm, or health professionals openly admit the truth and discuss their errors and harm they have caused to patients, they can be "othered". Such doctors may be labelled as aberrant or "not part of the club". In the case of patients and families, they may be criticised for exhibiting a lack of gratitude for the doctor's heroic efforts. In both cases, they are distinguished from the dominant cultural narrative and quarantined from impacting on it. The patient, family or the professional are characterised as unusual, so that the narrative remains intact and contrary evidence is ignored. The solidity of the medical narrative for doctors, patients and society makes it hard to overturn.

Doctors who have become most vocal about the need for patient safety action have generally either had personal experiences of being a patient or loved one of a patient in the health system, or have become personally aware when their actions have significantly harmed or killed a patient. Others have been researching adverse events, where they saw first-hand the extent of the problem. In each of these cases, the unconsciously absorbed medical narrative learned through professionalisation and reinforced in public discourse was challenged because they saw medicine and the system in which it operates through a very different lens. The dissonance was too clear to ignore and explain away. The Doctor Identity was profoundly challenged by other important aspects of who they were, so they began to see things very differently. For example, Dr Don Berwick was founding head of the Institute for Healthcare Improvement in 1989. While he was clearly aware of many of the issues already, in 1999 he spoke[95] of the impact of the serious illness of his wife that year, which had involved more than 60 inpatient days in 3 institutions. He stated that "before this, I was concerned; now I am radicalized. If what happened to Ann could

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[95]   The Plenary Speech given at the 11th Annual National Forum on Quality Improvement in Health Care in New Orleans in 1999, was recorded in Berwick D. *Escape Fire - lessons for the future of health care*. 2002 Commonwealth Fund, New York. (Escape Fire)

happen in our best institutions, I wonder more than ever before what the average must be like."[96]

D.   *The Tribal Doctor*

As can be seen from the discussion in Chapters 5 and 6 above, doctors are socialised into an identity that is seen as quite separate from most other identities. As a group, the creation of the Doctor identity is shared with their professional peers, that is, all other doctors. This shared identity has a great many impacts on their thoughts and actions. The bonds seen to exist between doctors separate them from others "outside the profession" in their own minds. This separation occurs partly through the training and consolidation processes discussed above and the existence of the medical tribe remains both a powerful defining element of the Doctor Identity and a powerful maintainer of that identity.

The powers used to circumscribe membership to the tribe have the potent capacity to exclude those who don't comply with the norms and rules associated with the tribe. Intra-group loyalty is often valued above duty owed to patients and others. Because the tribal nature of the profession remains strong, it also serves to compel conformity to the implicit rules of professional and peer loyalty. Where doctors stand up for patients or against inappropriate norms operating within their specific tribe, whether that be at the specialty, ward or hospital level, the personal and professional costs borne by them can be enormous. Whistle-blowers in medicine suffer greatly. This section of the chapter looks at these issues.

The open exercise of professional exclusion and personal ostracism serves as a mighty warning to those who may feel uncomfortable about a specific incident or type of behaviour, but be unsure what they should do. The message is that for someone to take on these concerns and take formal action will be an extremely costly personal and professionally action. Even if the action is found to be justified, the colleague who took action may still be made to suffer for breaching tribal loyalties. These bonds of loyalty, their deep historical roots and their collegial enforcement can play particular havoc with medical error and patient harm. Disclosure of these can be seen as a collective threat to the

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[96]   Escape Fire – see note 95: page 23, and see also pages 20-29.

Doctor Identity, and the fear of reprisal can deepen the veil of secrecy that often arises when harm occurs.

1. History of tribalism in Medicine

The concept of the medical tribe is well–documented over many centuries. The second paragraph of the Oath of Hippocrates is a useful ancient example of this, where a doctor pledges:

> To hold him who taught me this art equally dear to me as my parents, to be a partner in life with him, and to fulfil his needs when required; to look upon his offspring as equals to my own siblings, and to teach them this art, if they shall wish to learn it, without fee or contract; and that by the set rules, lectures, and every other mode of instruction, I will impart a knowledge of the art to my own sons, and those of my teachers, and to students bound by this contract and having sworn this Oath to the law of medicine, but to no others.

The medical and surgical bodies, which have existed since the middle ages, were essentially guilds, which operated to separately define those who are medical practitioners from those who are not. While the historical record shows that doctors sought to claim a monopoly through both royal and other government fiat, the theoretical monopoly was, in fact, both ineffective and ignored by most of the non-medical healers that proliferated outside of what was often a very small segment of the medical marketplace[97]. However, even among the guilds and Colleges in the regulated field of medicine (covering physicians, surgeons and apothecaries) in England from the medieval period onwards, there were extensive disputes about boundaries.[98]

Indeed, examples of exclusive tribal behaviours still continue, where there are, in fact, many tribes within medicine itself, and within the hierarchy of a hospital. The loyalties and

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[97] Pelling 1998 – see note 61: pages 30-33 especially; and Chapter 10, pages 230-233.

[98] For example, there have been centuries-long disputes between physicians, surgeons, apothecaries and others over who should provide what health related services to whom, and about the organisations that had statutory powers in relation to these groups and their precedence against each other. For example, the turf wars and bitter disputes in London between the Worshipful Society of Apothecaries of London (formed in 1617 and precursors to modern pharmacists), the College of Physicians (formed by statute in 1522) and the Company of Barber Surgeons (formed by Statute in 1540) are well documented over many centuries, as are their sometimes united fights against the many other practitioners of various forms of care intended to promote health, who were their competitors. See for eg, Pelling 1998 – see note 61: see Part III- Occupations, especially Chapter 9 on barber surgeons and Chapter 10 on medical practitioners.

bonds created in these settings can have benefits but also a great many risks. For example, the negative consequences of such tribal behaviours in modern times are detailed in Sir Donald Irvine's 2003 book *The Doctors' Tale – Professionalism and Public Trust*. At the time, he was the Immediate Past President of the UK's General Medical Council (GMC), the body responsible for the regulation of doctor behaviour and discipline. In a list of concerns including the negative impacts of a culture of elitism and perfectionism, and the need to preserve reputation by ignoring fallibility and uncertainty, he summarises some of the downsides of tribal behaviours in the following manner.

> A strong general culture of self-protection, defending the group and individual transgressors against outside criticism or attack except where deviant behaviour has been explicitly acknowledged by the tribe as unacceptable. Examples of such tribal behaviours by individuals against the majority have included unreasonable advertising, denigrating a colleague's practice and poaching a colleague's patients, that is to say any behaviours that impinge on a colleague's livelihood. …the misplaced collegiality which results in the tendency to defend the clinical practice of individual members except in the most flagrant circumstances "there but for the grace of God go I,"… may be coupled with the simpler "not my problem". Both are recipes for inaction.[99]

Irvine goes onto discuss the history of such tribal behaviours and the internal medical tribes and their functioning with the National Health Service, but the description he gives can be seen in most hospitals or health systems where doctors are trained in a similar manner. This powerful description shows the link with identity formation through the apprenticeship model of clinical training discussed above.

He describes the system of College fellowships, appointments and promotion, which still form the bedrock of specialist training in Australia and elsewhere, as "a remarkable system of closed patronage", which required deference to authority, not "rocking the boat" and never "whistle-blowing" on colleagues. Irvine notes that: "On the contrary, speaking out against a colleague was considered "not done" and indeed was listed by the GMC until quite recently as an ethical offence known as disparagement". This offence was developed

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[99]   Irvine D. *The Doctors' Tale – Professionalism and Public Trust*. 2003 Radcliffe Medical Press, Abingdon (UK): pages 24-26. Even as recently as 1990, there were 23 complaints made to the General Medical Council (GMC) in relation to disparagement, though only 12 of these were continuing by the October 1990 meeting of the GMC. See: Smith RG. *Medical Discipline – the Professional Conduct Jurisdiction of the General Medical Council 1858-1990*. 1994 Clarendon Press, Oxford: Table 1.1, at page 8.

to discourage public debates about the efficacy of treatments or the character of particular doctors[100], because any reputational damage to individual members of the medical profession were seen as impacting upon the economic fortunes of all. This public dissension was thought by the doctor institutions, such as the Royal College of Physicians, to bring disrepute upon the whole profession.[101]

In early attempts to address such public displays, the Royal College of Physicians established the Statutes of Morality as part of its regulation of physician behaviour in its early years of incorporation in the 1500s.[102] These statutes mostly sought to ensure the provided rules of etiquette and exclusive structured business behaviours between doctors[103]. At their very beginning, these statutes included conflicting messages which appeared to place the duty of doctors to each other (and self-interest) above their duty to patients. For

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[100]   The history of these ethical obligations for doctors not to criticise other doctors appears first to have arisen in response to bitter, public fights which occurred historically within the medical profession as part of their entrepreneurial enthusiasm to capture and hold the limited market of those who could pay well for healthcare. This competitive promotion continued for several centuries despite these efforts. See, eg, Porter D and Porter R. *Patient's Progress: Doctors and Doctoring in Eighteenth Century England*. Until the scientific basis of medicine was better established and the mechanisms of disease better understood, there were often significant public arguments between doctors, recorded in lectures and pamphlets, with different doctors scorning the practices of others and publicly critiquing different schools of medical thought. There was also high levels of competition with unregistered healers, surgeons and apothecaries. Wear A. The Discourses of Practitioners in Sixteenth and Seventeenth Century Europe. Chapter 27 in Baker RB. McCullough LB. (editors). *The Cambridge World History of Medical Ethics*. Book DOI: http://dx.doi.org/10.1017/CHOL9780521888790 online publication date May 2012. 2008 Cambridge University Press, Cambridge (UK), pages 379-390: page 377.

[101]   Baker R. The Discourses of Practitioners in Nineteenth and Twentieth Century Britain and the United States. Chapter 36 in Baker RB and McCullough LB. (editors) *The Cambridge World History of Medical Ethics*. Book DOI: http://dx.doi.org/10.1017/CHOL9780521888790 online publication date May 2012. 2008 Cambridge University Press, Cambridge (UK), pages 446-464: page 448. See also Brody HA. Meghani Z. Greenwald K. *Michael Ryan's Writings on Medical Ethics*. Philosophy and Medicine Series. 2009 Dordrecht Springer, London.

[102]   The earliest College statutes dealing with ethics appear to have been passed in 1543, but these are listed with an addendum (formerly penal statutes). These lists are fragmentary and so the first of these may be even earlier. Clarke G. *A History of the Royal College of Physicians of London*. Volume 1, 1964 Clarendon Press, Oxford (UK): see chapter VI, especially at page 90. The Statutes of 1647 (which are complete), list these behavioural norms under Chapter 22 "De Conversatione Morali,et Statutis Poenalibus" (appendix II in Clarke, op cit.) and in later works these are called "the Moral Statutes" eg Brody HA. Meghani Z. Greenwald K. *Michael Ryan's Writings on Medical Ethics*. Philosophy and Medicine Series. 2009 Dordrecht Springer, London (UK): pages 153-154, where the Moral Statutes of 1835 are listed in English.

[103]   McCullough LB. The Discourses of Practitioners in Eighteenth-Century Britain. Chapter 30 in Baker RB and McCullough LB. (editors) *The Cambridge World History of Medical Ethics*. Book DOI: http://dx.doi.org/10.1017/CHOL9780521888790 online publication date May 2012. 2008 Cambridge University Press, Cambridge (UK), pages 403-413: at pages 405-406, especially Part III. An ethos of Personal Regard and Proper Manners.

example, doctors were required to not teach their patients about medicine and medical treatments. Undercutting of fees and criticism of colleagues was forbidden. Further, where there was not agreement about a patient's condition, there were processes designed to ensure this was not apparent to the patient or the family:

> Above all "discord" had to be avoided so the "Art" was not prejudiced. Consultations [between doctors] were to be in private, carried out in Latin, with no one breaking ranks in front of the sick.[104]

Despite the College using fines or even imprisonment on those it had jurisdiction over[105], the problem of internecine professional brawls continued through the centuries, partly because of the professional self-definition of doctors as gentlemen[106]. An insoluble tension appeared to exist between the cultural requirements of a gentleman to defend his professional honour when attacked by another, and the collegial obligations to the Profession, which was sought to be enforced, ineffectively in large part, by the College. The profession's focus on tribal loyalty (as against defence of individual honour) grew by the 19th Century with the establishment of hospitals, public hospitals and medical schools, all of which required professional collaboration to work.[107]

Government regulation of the medical profession in the United Kingdom started with the *Medical Act 1858*, which required doctors to be registered and created the General Medical Council, to determine whether someone was guilty of "infamous conduct in any professional respect"[108]. This phrase was not defined by statute, but through the practices

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[104]   Wear commenting on the 1693 version of the Moral Statutes of the Royal College of Physicians. Wear 2008 – see note 100: page 381.

[105]   Clarke describes a Dr Christopher Langton who was expelled from the College in 1558 after three warnings, for "rashness, for levity and for foolishly contending with other fellows in the presence of witnesses when visiting patients, for his ridiculous vainglory, which dishonoured the College, and to make good measure for certain unspecified marks of incontinence." Clarke provides other examples where doctors were punished for critiquing Galen, and were threatened with imprisonment if they refused to respond to the College. See: Clarke 1964 at note 102: Chapter VII see especially pages 108-109 and following.

[106]   Baker 2008 - see note 101: at page 448.

[107]   The important work of Thomas Percival on ethics arose from the need for rules of conduct for disputing doctors at Manchester Hospital, where such a dispute had led to an impasse where doctors refused to work with each other. Percival T. *Medical Ethics or a Code of Institutes and Precepts adapted to the Professional Conduct of Physicians and Surgeons.* 1803 Printed by S Russell, Manchester (UK). Also available free on Google Books

[108]   *Medical Act 1858*, section 29.

and decision of the Council. Deprecation of the professional skill, knowledge, services or qualifications of another doctor or doctors (sometimes also called disparagement) was listed as a professional offence in the first so-called "Blue Book" of the General Medical Council.[109]. Few cases of disparagement or deprecation of other medical colleagues led to doctors being erased for the medical register (without other accompanying offences)[110], but its very existence as an ethical offence indicates the continuing importance of tribal loyalty. The concurrent powers of the Royal College of Physicians and other bodies such as local medical associations and the British Medical Association, with their official and unofficial capacity to ostracise[111] those who didn't play by the often unwritten rules of professional loyalty probably operated in the space below the statutory radar of the General Medical Council in these lower level professional etiquette matters.

Ostracism also occurred informally in jurisdictions with written Codes of conduct, such as the United States.[112] The first code of doctor-to-doctor conduct in the United States was entitled the *Boston Medical Police* in 1808. This document spelt out even more plainly the nature of these tribal obligations:

> The *esprit de corps* is a principle of action, founded on human nature, and, when duly regulated, is both rational and laudable. Every man, who enters into a fraternity, engages by a tacit compact, not only to submit to the laws, but also to promote the honour and interest of the association, so far as they are consistent with morality and the general good of mankind. A Physician, therefore, should cautiously guard against whatever may injure the general respectability of the

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[109] General Medical Council. *Functions, Procedure and Disciplinary Jurisdiction*. 1963: page 13 Paragraph (IX)(5).

[110] Smith 1994 at note 99 lists all of the matters subject to disciplinary hearing over the period 1858-1990. Many of the records of the early years of the jurisdiction did not contain any information about the substance of the allegation so the record is not complete, but there were isolated instances of deprecation. For example, Case 334 28 November 1907 in Smith's Appendix (page 252) was for canvassing and depreciating another practitioner, with the practitioner being erased for 150 months

[111] The Association's original tool of compulsory ostracism where a member behaved in a manner considered to offend their peers (often relating to income levels, working with non-doctors etc) were significantly affected by a judicial finding in 1919 that it constituted an unlawful restraint of trade: *Pratt v The British Medical Association* [1919] 1 KB at 274.

[112] Hyde DR. The American Medical Association: Power, Purpose and Politics in organized medicine. 1954 *Yale Law Journal*, May, volume 63 (7), pages 937-1022: page 949, which stated:

> Because the AMA had the consent and support of a great majority of doctors, its standards can often be enforced against an offender without formal action. The physician who is suspected of 'unethical' practice may be subjected to professional ostracism. This may involve denial by member physicians of patient referrals and consultations and the loss of advancement in hospital and other professional appointments. The mere availability of such sanctions is usually enough to deter possible violators of AMA's code of conduct

profession, and should avoid all contumelious representations of the faculty at large, all general charges against their selfishness or improbity, or the indulgence of an affected or jocular scepticism, concerning the efficacy and utility of the healing art.[113]

Given this long history of concern, loyalty to other doctors later formed a key part of most of the first tranche of modern codes of ethics. These principally derived partly from the writings of three doctors, each of whom worked or studied at Edinburgh University during the period known as the Scottish Enlightenment[114]. These were Dr John Gregory of Scotland[115], Dr Thomas Percival of England[116] and Dr Benjamin Rush of the United States of America[117]. These authors mark an important shift in ethical codes, as they focussed on the ethical obligations of doctors to patients and other public obligations of doctors, as well as doctor-to-doctor conduct. This last component continued as an important part of ethical codes for a long time. For example, the 1847 American Medical Association Code of Ethics is seen as one of the first widely promulgated, formal modern encapsulations of the duties owed by doctors to patients and each other.[118] In it, there were frequent references to the need for doctors to share any disagreements about treatment options only with each

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[113] Boston Medical Association. *Boston Medical Police*. 1808 Snelling and Simon, Boston: at page 8 - Conduct for the support of the medical character. There is also a detailed section on why it is important for the profession not to air its differences in public, because it not only hurts "the contending parties, but what is of more consequence, they discredit the profession and expose the faculty itself to contempt and ridicule." (pages 6-7) along with a range of doctor to doctor behavioural expectations. This document was prepared by the Standing Committee of the Association of Boston Physicians in 1807, "having been instructed to propose a code of Medical Police" for the Association's next Annual General Meeting. While they assert they drew on the work of Gregory, Rush and Percival in developing the Police, they omitted all of the ethical duties to patients.

[114] In fact, Aberdeen University was the birth place of what became known as the philosophy of common sense – based on the concept that reality was able to be understood and discerned through our senses and our own experiences. This philosophy also found a strong home in Edinburgh University. For further discussion of this philosophy and its connection to developments in the US, see: Herman A. *How the Scots invented the Modern World: the true story of how Western Europe's poorest nation created our world and everything in it.* 2001 Crown Publishers, New York: pages 222-225.

[115] Gregory J. *Lectures on the Duties and Qualifications of a Physician.* 2nd edition (revised by his son Dr James Gregory) 1803 W. Creech & T. Cadell & W. Davies, Edinburgh. [Access to this historic book was provided through the Royal Australasian College of Physicians History of Medicine Library]

[116] Percival 1803 – see note107.

[117] Rush B. *Sixteen Introductory Lecturers, to courses of Lectures upon the Institute and Practice of Medicine with a Syllabus of the latter*. 1811 University of Pennsylvania, Pennsylvania.

[118] American Medical Association. *Code of Ethics of the American Medical Association*, adopted May 1847, 1848 TK and PG Collins, Printers, Philadelphia.

other, and to avoid implied or explicit criticism of colleagues, especially in front of a patient or family member[119].

These behavioural norms were even more strongly set out in the first Australian medical association of the same era. In the 1846 Rules of Association of the Port Phillip Medical Association in the colony of Victoria, in Australia, the rules[120] stated, among other things:

> 35.   That, as the dignity and influence of this Association essentially depend upon the friendly co-operation and harmony of its members, this Association strongly reprobates all hostile collisions and personal animosities.
>
> 36.   That, as differences of opinion of necessity arise in the treatment of diseases, this Association enjoins upon its members the exercise of honourable feelings and mutual forbearance in their professional intercourse.
>
> 37.   That no member of this Association shall give any countenance whatever to disparaging reflections or false reports affecting the professional character of other members.
>
> 38.   That in all cases where one member is called in to attend for another and in all consultations of members, the member called in shall neither say, look nor insinuate such things as he knows will operate to the injury of the member in previous attendance nor otherwise endeavour to supplant him in the estimation of his patient.
>
> 39.   That any member who shall in any manner attempt to undermine or otherwise injure the professional reputation of any other member shall, on proof of such an offence, incur the highest censure of the Association.

These legacies of collegial loyalty above all things remain in the "implicit values" expressed by the profession's responses to criticism from inside the profession, when this becomes public – so called whistle-blowing.

2.   Conspiracies of silence and the treatment of medical whistle-blowers

Many examples of the continuing power and impact of loyalty to the tribe in medicine remain today, despite the greater explicit focus on duties to patients. One is the practical "conspiracy of silence" where doctors and medical administrators avoid criticising even

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[119]   American Medical Association 1848, see note 118: chapter II, in particular.

[120]   Graham HB. Happenings of the now long past: the Centenary of the Medical Society of Victoria. 1952 *Medical Journal of Australia*, 16 August, volume II-39th year, number 7, pages 213-247.

badly performing doctors[121]. For example, in the 2002 Health Complaints Commission inquiry into Canberra neurosurgical services, the first review was unable to make a definitive finding on the standard of care of services because of a lack of co-operation by other surgeons[122]. This review was presented to the then Health Minister but not made public[123]. In the end, the Commissioner made some of the information public, through summarising his major findings in his Annual Report[124] and a separate report was tabled in the ACT Legislative Assembly on 9 December 2003[125]. Among other things, this report noted that a significant number of doctors had simply refused to comply with statutory notices requiring them to provide information to the Commissioner in relation to the inquiry, despite the unexercised legislative power to fine or imprison for such failure.[126]

There is also substantial continuing evidence of negative professional impacts on doctors (and other health professionals) who make public their criticisms of others in the profession, even where the behaviour complained of is not acceptable in the broader community and the complaint is upheld.[127] In the case of the Canberra Neurosurgical inquiry, the medical informant, Dr Gerard McLaren was shunned and intimidated for his

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[121] For a patient focussed study of this issue, Gibson R. Singh JP. *Wall of Silence – the untold story of the medical mistakes that kill and injure millions of Americans*. 2003, Lifeline Press, Washington DC. See also Faunce T. Mure K. Cox C. Maher B. When silence threatens safety: Lessons from the first Canberra Hospital Neurosurgical Inquiry. 2004 *Journal of Law and Medicine,* volume 12, pages 112-118.

[122] ACT Community and Health Services Complaints Commissioner. *Annual Report 2002-2003*. 2003: at page 57.

[123] Faunce TA. Bolsin SNC. Three Australian Whistleblowing sagas: lessons for internal and external regulation. 2004 *Medical Journal of Australia*. 5 July, volume 181(1), pages 44-47.

[124] ACT Community and Health Services Complaints Commissioner 2003 – see note 122.

[125] Community and Health Services Complaints Commissioner ACT. *A Final Report of the Investigation into Adverse Patient Outcomes of Neurosurgical Services Provided by the Canberra Hospital*. Dated February 2003.

[126] Community and Health Services Complaints Commissioner ACT. *A Final Report of the Investigation into Adverse Patient Outcomes of Neurosurgical Services Provided by the Canberra Hospital*. February 2003: page 15.

[127] Faunce et al. 2004 at note 123: this document covers three Australian Inquiries –into Camden and Campbelltown Hospitals in 2003, the Canberra Hospital in 2003 and King Edward Memorial Hospital in Western Australia 2002. It arguable that this punitive reaction is one shared by other social structures. The philosopher Alasdair MacIntyre notes that where someone threatens a social order or structure by acting as a moral agent that order will seek to contain or suppress such action, including punishing the person seen as a threat. MacIntyre A. Social structure and their threats to moral agency, 1999 *Philosophy*, volume 74, pages 311-329: see especially page 321 and following. His summary of the reason for the perceived threat is set out in the moral maxim he states at page 319: "always ask about your own social and cultural order what it needs you and others not to know"

efforts. Medical colleagues present at his Grand Rounds presentation about the cases of concern, reported that:

> The staff-specialist whistle-blower was chastised by colleagues and threatened with defamation proceedings when he attempted to present anonymised cases from the suppressed report in hospital grand rounds.[128]

An example of the treatment of a whistle-blower in the United Kingdom relates to anaesthetist Dr Stephen Bolsin, who drew medical management attention to the poor outcomes for babies operated on in the Bristol Royal Infirmary Paediatric Cardiac Surgery Department.[129] He testified to the Kennedy Inquiry about what happened to him when he drew the attention of medical management to the significant number of preventable deaths in cardiac surgery on babies. He described being shunned by the medical establishment and having to seek a job abroad, having applied unsuccessfully for jobs in Britain. He also describes having his concerns and data ignored or dismissed, and being warned that that this was not the way to progress his career in Bristol.[130] Both Dr Bolsin and Dr McLaren gave harrowing accounts of their mistreatment by other members of the medical tribe in a 2007 Four Corners television program[131].

In relation to the Bristol Infirmary, the Kennedy Report also referred to various negative cultural elements at the Infirmary. In particular, it drew conclusions about the negative impact of inter-specialty and inter-professional tribalism as barriers to ensuring quality care was delivered to patients:

> … The positive aspects of tribalism are clear. Tribalism engenders a sense of belonging, a set of common goals, a sense of mutual support. Moreover, competition between various tribes may be beneficial if it creates an environment of creative tension within the organisation. The danger of tribalism, of course, is that where here are numerous tribes it can threaten to undermine the capacity of a large organisation to adhere internally to a set of agreed core values and to represent these values to the outside world. Moreover, when tribal groups fall out, or disagree over

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[128]   Faunce 2004 at note 123: at page 46.

[129]   The Public Inquiry held published a significant report, which included criticism of the inaction of those doctors notified of the problems. Kennedy I. *Learning from Bristol – the Report of the Public Inquiry into children's heart surgery at the Bristol Royal Infirmary 1984-1995*. Presented to the Secretary of State for Health July 2001, CM 5207(1): (the Kennedy Inquiry and Report)

[130]   Dyer C. Whistleblower in Bristol case says funding was put before patients. 1999 *British Medical Journal,* volume 319, pages 1387.

[131]   Masters C. "First Do No Harm", ABC Four Corners, 27 August 2007.

territory in an organisation such as the NHS, the safety and quality of the care given to the patient is put at risk.[132]

Combined with the hierarchy within the hospital and between specialties, the Report commented on the "negative side of group loyalty", which "makes it difficult for an individual to summon up the courage not to conform". It influenced "who gets listened to within the organisation when questions are raised".[133] They noted that "professional self-images …affect behaviour: they are a powerful force militating against teamwork, particularly among younger staff, anxious not to fall foul of those with power or authority."[134]

A more recent example of the treatment of medical "whistle-blowers" brought to public attention in 2015 related to a female surgical trainee Caroline Tan, who alleged sexual assault and sexual harassment by her supervising male neurosurgeon in 2005. After a long process where she was belittled and degraded in myriad ways, she took action before the Victorian Administrative Appeals Tribunal. After an extensive and strongly defended hearing, the offence was found to have occurred and the complainant was awarded $100,000 damages[135]. The male surgeon, Chris Xenos remained in his job at Monash Medical Centre, as did his supervisor, Dr Danks, who was found to have been a partial witness and to have "not understood his responsibility [as Unit Head] to deal with a claim such as this is an impartial and fair manner"[136]. Despite qualifying as a neurosurgeon, 10 years after complaining and qualifying, Caroline Tan has been unable to gain a position in the Australasian public hospital system[137].

A senior female vascular surgeon, Dr Gabrielle McMullin, brought this to public notice by stating that, in the current cultural environment, for women who wanted to protect their

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132   Kennedy Report - see note 129: page 266, paragraphs 9-10.

133   Kennedy Report - see note 129: page 269, paragraph 19.

134   Kennedy Report - see note 129: page 269, paragraph 18.

135   *Tan v Xenos* (No 3) (Anti-Discrimination) [2008] VCAT 584 (11 April 2008)

136   *Tan v Xenos* – at note 135: paragraphs 344-350, especially 347-8.

137   McDermott Q. Michelmore K. At their Mercy: the bullying and bastardisation of young doctors in our hospitals. 2015 *Four Corners* ABC Television Program, broadcast 25 May 2015 see also Price J. Loyalty in the medical field cuts both ways. 2015 *Canberra Times*, 5 May, page 5.

surgical career, it was a safer option to comply with requests for sex from male colleagues, rather than to report harassment. Describing Dr Tan's situation on radio[138], she said:

> "At the hospital Caroline ended up training at, one surgeon took her under his wing. But things got uncomfortable.
>
> "He kept asking her back to his rooms after hours. But after this one particularly long [work] session, she felt it was rude to refuse and they ended up back in his rooms, where, of course, it was dark and there was nobody else around, and he sexually assaulted her.
>
> "She was horrified. She ran out of the office. She didn't tell anyone.
>
> "Dr McMullin said the surgeon began to give Caroline bad reports and faced with the prospect of failing after years of hard work, Caroline finally complained.
>
> "After a long and gruelling legal process, Caroline won her case.
>
> "However, despite that victory, she has never been appointed to a public position in a hospital in Australasia," Dr McMullin said.
>
> "Her career was ruined by this one guy asking for sex on this night. And realistically, she would have been much better to have given him a blow job on that night.
>
> "The worst thing you could possibly do is to complain to the supervising body, because then, as in Caroline's position, you can be sure that you will never be appointed to a major public hospital."

Not surprisingly, there was significant public coverage of the matter in press[139], radio[140] and television[141]. In response to this the Royal Australian College of Surgeons established an Expert Advisory Group, including a majority of external non-surgeon appointees, in March 2015 to, among other things, survey the prevalence of bullying, discrimination and

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[138]   See eg, Matthews A. Sexual harassment rife in medical profession, senior surgeon Dr Gabrielle McMullin says. ABC News AM Program, 23 April 2015: sighted at http://www.abc.net.au/news/2015-03-07/sexual-harassment-rife-in-medical-profession-surgeon-says/6287994

[139]   See eg, Lillebuen S. Senior surgeon Gabrielle McMullin stands by advice for female doctors to stay silent on sex abuse. 2015 *Sydney Morning Heral*d, 7 March: sighted at http://www.smh.com.au/national/senior-surgeon-gabrielle-mcmullin-stands-by-advice-for-female-doctors-to-stay-silent-on-sex-abuse-20150307-13xzog.html ; Johncock W. Gabrielle McMullin shows it pays to be outrageous when fighting sexism, 2015 *Sydney Morning Herald*, 9 March sighted at http://www.smh.com.au/comment/gabrielle-mcmullin-shows-it-pays-to-be-outrageous-when-fighting-sexism-20150309-13yrn0.html ;

[140]   See eg, Jackson E. Sexual harassment rife in medical profession warns surgeon. AM with Michael Brissenden, 9 March 2015.

[141]   McDermott et al. 2015 – see note 137.

sexual harassment in surgery in Australia and New Zealand, and to report on how to positively impact on surgical workforce culture in these areas. [142]   A joint statement from the College and Expert Advisory Group stated:

> Recent media reports profiling discrimination, bullying and sexual harassment by surgeons have been distressing. These reports have highlighted the serious adverse impact it can have on the lives of good people. They have criticised the College for not doing enough to prevent it. The reports helped galvanise the College to act decisively now.[143]

The Report of the Expert Advisory group was provided to the Royal Australasian College of Surgeons in September 2015, and the College has accepted all of the recommendations, many of which are designed to overcome these tribal practices. These include:

- The need for the College and Specialty Societies to lead the way in changing the culture of surgery, so that discrimination, bullying and sexual harassment are no longer acceptable or tolerated;

- The improvement of surgical education so that bullying, intimidation and harassment are no longer seen as acceptable methods of adult education; and

- The introduction of complaints management processes that are transparent, robust and fair, where people can raise concerns without fear of victimisation.[144]

While the College has acknowledged and apologised for the problems of the past and undertaken to create better institutional and on-the-ground responses, it will be important to observe how the existing Fellows, who have been steeped in the deep history of tribalism, react and change over the period of implementation.

3.   Conclusion

The long and entrenched history of medical tribalism and its negative impact on those in the profession who speak out and are critical of other doctors, even for very good reasons, show how deeply tribal loyalty influences and shapes the Doctor Identity. Even with

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[142]   Royal Australasian College of Surgeons. Expert Advisory Group on Discrimination, Bullying and Sexual Harassment, Terms of Reference. Sighted at http://www.surgeons.org/media/21627902/EAG-2015-TOR.pdf

[143]   Knowles R. Griggs M. Joint Statement from the Expert Advisory Group and Royal Australasian College of Surgeons. Media release 28 April 2015 by Expert Advisory Group on discrimination, bullying and sexual harassment. Sighted at: http://www.surgeons.org/media/21628819/eag-mediarelease-28-april-final-.pdf

[144]   RACS EAG Report 2015 – see note 10: pages 13-17.

efforts towards reform and legislative codes which seek to make clear the doctor's primary loyalty to patients and their safety, there is a deep cultural history that exposes doctors who do speak out to an often vicious collective response from their peers and colleagues.

These cultural sanctions are extremely powerful and the impact of seeing just one person subject to these humiliating processes can influence others for a long time. It is not surprising that even in the recent Royal Australasian College of Surgeons process discussed above, the Expert Advisory Group reported that some Fellows, Trainees and International Medical Graduates did not participate in the research and consultation processes for fear of reprisal[145]. Where personal identity is defined, to a large extent, by membership of a professional group, the psychological and practical impact of potential group rejection creates an often impossible barrier to speaking up. This remains a significant barrier to more open processes around medical error and patient harm, as well as effective, collective action by the profession.

E. The Doctor as "Not patient"

Part of the Doctor Identity defines a doctor as fundamentally different from the person he or she has to care for – the patient. This carries risk for both the doctor and the patient. Firstly, as a human being, a doctor is just as likely as anyone else to develop ill-health, and seeing themselves as "not patient" can lead them to fail to seek early assistance for their own medical conditions, leading sometimes to unnecessary illness or early death. Paradoxically, once a doctor has the experience of being a patient, their practice of medicine often changes to reflect their new understanding of what it is like to be a patient. Secondly, when doctors define patients as "other", their capacity for empathy often declines because they do not see the patient's shared humanity. As discussed in Chapter 5, part of the training of professionalism is to ensure the Doctor Identity supplants others that the trainee may have arrived with and to achieve a new professional identity. In no area is this separation more significant than the one between doctor and patient. Part of the decline in empathy observed over the period of medical training arises directly from the shift away

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[145] RACS EAG Report 2015 – see note 10: page 5.

from identification with patients. Sometimes this is claimed to be related to the establishment of so called "professional distance" or "clinical objectivity".

Other times it arises from the modelled behaviour of more senior doctors in situations where they feel uncomfortable or frustrated. For example, with the focus of the medical narrative on curing patients, those who are chronically ill or dying are often problematic for doctors. Failing to recover is seen as the patient's failure at multiple levels[146] – the patient fails to respond to a cure, the patient fails to comply with medical expectations (or even worse, instructions), the patient has failed to properly look after himself or herself and so is treated as an object of derision. These modelled behaviours of doctors, while maladaptive in the maintenance and promotion of empathy, can be a form of self-protection from the anguish which may otherwise be experienced through observation of the suffering and death of others.

At the beginning of training, medical students often closely identify not only with patients but with diseases they are studying. They often see themselves as suffering from the conditions they are learning about. So common is this is that it is described as hypochondriasis of medical students.[147] What has been less noted is the consequence for doctors in looking at their own health once they have become doctors. In an Australian website to provide health advice to doctors, the introduction summarises the transformation which occurs between student and doctor:

> As medical students, we initially think that we suffer from every symptom we read about. By the time we have graduated, we believe that we are immune from every disease we have read about. By now "we're doctors, not patients." [148]

Similarly, in a 2007 Australian Medical Association Study on the health and well-being of junior doctors, it was noted that:

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[146]   Gunderman R. Illness as failure: Blaming patients. 2000 *The Hastings Center Report*, July-August, volume 30(4), pages 7-11.

[147]   See eg, Hodges B. Medical student bodies and the pedagogy of self-reflection, self-assessment and self-regulation. 2004 *Journal of Curriculum Theorizing (JCT)*, Summer, volume 20(2), pages 41-51: at pages 44-45, especially section on "Medical Students' Disease". Whether there is a higher rate of health anxiety among medical students has been the subject of some debate – see Howes O. Salkovskis P. Health anxiety in medical students. 1998 *Lancet*, 2 May, volume 351, page 1332.

[148]   Doctors; Health Advisory Service website; at http://www.dhas.org.au/content/view/5/5/ ; viewed 28 June 2011.

> …. Many doctors do not behave like good patients. They may not follow the advice they would give to their own patients and often do not seek appropriate medical care. This paradox is often attributed to the culture of the medical profession, which is very competitive and has high expectations of dedication to work and unlimited resilience under stress. The stigma of ill-health that prevails among doctors discourages the open admission to colleagues of medical problems or personal difficulties.[149]

There are a number of autobiographical accounts of the transition of doctor to patient, which describe in vivid detail the impact of this transition on individual doctors and often how it affects their practice in the future[150]. One thing that stands out in these accounts is the pain caused to the ill doctors from the status and power changes that occur for the doctor who becomes ill, and the profound impact it has on their sense of self. While it is arguable that this experience is a common one for most patients admitted to hospital, the various doctor descriptions of the process seem to emphasise how far it feels they have fallen. For example, Dr Rosenbaum's story of his diagnosis and treatment for cancer of the larynx starts with this motif of moving from king to commoner, from commander to baby:

> On my seventieth birthday, I reported to the hospital to have a biopsy. I had practiced medicine at this hospital in Portland, Oregon, for more than forty years. I had been the chief of medicine and president of the staff; this year my eldest son, Richard, was president of the staff. On fifteen thousand previous visits I had entered through a private door like a king. … But today it was different. I was one of the common herd. … Lying in bed in a hospital room was a new experience too. I had been in similar rooms thousands of times, but in a different position. Then I was in command, neatly dressed, standing, looking down at a helpless patient in bed. Now I was that patient, literally stripped of my dignity. I was no longer in charge. I was being treated like a baby.[151]

Where a doctor has also been a carer for a loved one, this has also provided a window to observe the medical role and system from a different perspective. Dr Donald Berwick, one of the Founding directors of the Institute for Healthcare Improvement, tells of such an experience during the illness of his wife Ann in a monograph entitled *Escape Fire*. In detailing the experience, he said:

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149   Australian Medical Association (AMA). *AMA Survey Report on Junior Doctor Health and Wellbeing*. 2008 AMA, Canberra.

150   See eg, Pinner M. Miller B. (editors) *When doctor are patients*. 1952 WW Norton & Co, New York; Rosenbaum E. *A taste of my own medicine – when the doctor is the patient*. 1988 Random House, New York; Kurland G. *My own medicine – a doctor's life as a patient*. 2002 Times Books, New York; Weisman J. *As I live and breathe – notes of a patient-doctor*. 2002 North Point Press, New York.

151   Rosenbaum 1988 – see note 150: pages 3-5.

> Above all, we needed safety, and yet Ann was unsafe. I have read the works of the physician Lucian Leape documenting medication errors, but now I have seen them first hand at the sharp end, sitting by Ann's bedside for week after week of acute care. The errors were not rare; they were the norm.[152] … The experience of patienthood or patient-spousehood, as the case maybe, was often one of trying to get the attention of decision-makers to correct their impressions or their assumptions. Sociologically, this proved very tough, as we felt time and again our migration to the edge of the label "difficult patient".[153]

In both cases, the experience can be a radicalising one, as the doctor has a very different worldview and identity thrust upon him or her. While Dr Rosenbaum retired after his treatment for laryngeal cancer, he states that he actually wrote his story for other doctors to learn from because "The view is entirely different when you are standing at the side of the bed from when you are lying in it. If I could go back, I would do things in my own practice very differently than I did."[154]

Dr Donald Berwick had greater professional insight than most doctors into the quality and safety of healthcare from an organisational perspective. However, his experience of his wife's serious illness 10 years after he founded the Institute for Healthcare Improvement had a profound effect on what the everyday failures in healthcare meant to him. He compared the care that was needed by his wife, and what she actually received, with the Mann Gulch Fire of 1949 where 13 young fire-fighters died as follows:

> We are causing harm, and we need to stop it. I think the fire has jumped the gulch. The blaze is on our side. As I waited helplessly for Ann to get a medicine when "time was of the essence", I even felt the fire licking at my heels. The people know this. Not just the people in the beds, but the people doing the work too. The doctors and nurses and technicians and managers and pharmacists and all the rest know – *they must know* – the truth. They see it every day, and even if their defensive routine no longer permits them to say what they see, they do see it: errors, delays, nonsensical variation, lack of communication, misinformation, the care environment not at all a place of healing.[155]

The comments of both these doctors also reveal how the lens of understanding and observation of a doctor often excludes these perceptions, which can seem so obvious when

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[152]   Berwick 2002 – see note 95: page 23.

[153]   Berwick 2002 – see note 95: page 25.

[154]   Rosenbaum 1988 – see note 150: page viii.

[155]   Berwick 2002 – see note 95: pages 28-29.

one is looking from a different place. The shock and astonishment felt by the doctors in all these "patient stories" shows how strong the psychological blinkers were which precluded them from seeing what was no doubt evident in their own practices, but which was not necessarily "in their awareness" until they looked from another psychological place, outside the Doctor Identity.

Beyond these powerful anecdotal stories, some of the most comprehensive work looking at the impact of life threatening illnesses on the self-identity of doctors was undertaken by Dr Robert Klitzman, a psychiatrist and researcher. The complete study was published in 2008 in a book entitled *When doctors become patients*[156], and was based upon 2 two-hour in-depth interviews with 70 doctors with life-threatening illnesses, including HIV-AIDS, cancer, heart disease and many other serious conditions. Klitzman first notes the depth of denial that characterised what he calls "post residency disease" – it was the obverse of what occurs with medical students. Doctors would fail to respond to symptoms and refuse to have tests, and then be diagnosed late, with often serious consequences for their disease recovery.

> Through their professional training and socialization, these doctors frequently had come to see physicianhood as protective against illness – as immunity and defense. They believed that doctors were magically invulnerable to disease. Their professional roles shaped their thinking. … This belief in invulnerability can easily border on magical thinking. Indeed, many doctors felt they donned a 'magic white cloak" giving them authority and protecting them against strangers' bodies and disease.[157]

Klitzman describes the transition from student to doctor to patient as a series of psychological transitions, where in the end, the "doctor" identity is so strong, and the "othering" of patients so deep, that it has traumatic impact on the doctor's own sense of self when they become ill.

> Medical students identify first with patients, and only later with fellow physicians. Medical training radically challenges these trainees, taking them apart psychologically, *wounding them.* They must then put themselves back together and end up identifying with fellow doctors. Yet given these defenses, carefully built up over years, the eventual loss of this sense of invincibility can prove devastating, undermining prior rationalizations. Now sick, they strongly resist giving up their role as doctor.

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[156] Klitzman 2008 – see note 36.

[157] Klitzman 2008 – see note 36: pages 33-34.

> … These physicians' surprise [about the possibility of disease or death in their lives] was itself surprising, indicating the extent to which they had previously been socialized to feel otherwise. These beliefs persisted to such a degree that physicians may not only distance themselves from patients, but also look down at, and stigmatize, them. Some doctors thought that being a patient was "the worst possible thing" that could happen to them. … These doctors revealed the degree of stigmatization of patients that can exist within the medical profession. … *"To be a patient is suddenly a step down"*.[158]

The strength of the doctor's perception of his or her identity included "magical thinking" that as a doctor he or she will escape illness and even mortality, or that doctors are obliged, by being doctors, not to get sick. Klitzman notes "the thickness of the psychic armor that doctors don [through years of training] – the belief that, for various reasons, physicians simply do not get ill."[159] This parallels the mistaken views about doctor invulnerability to fatigue in Chapter 4.

Klitzman's research also reveals the shame that some of the doctor's feel about getting sick.

> Deeply seated feelings about oneself can enlarge the wound that others perceptions cause. These self-views can exacerbate fears of discrimination. At times, sick doctors may feel shame, and their concerns about possible discrimination can reflect their own worries and psychological projections – their own views of themselves as flawed. … Physicians' beliefs in their own invulnerability can increase the shame they feel if they do in fact become sick.[160]

This aspect of Klitzman's research shows that the psychological identity of Doctor transcends their scientific knowledge and training as doctors about the cause of disease and the human condition. The illusory schema that doctors are better than human overshadows the special skills and knowledge, which define a doctor in the ordinary world. If the doctor becomes sufficiently ill to no longer be able to work, the crisis of identity is profound, because being a doctor is an identity, not just an activity.[161] While this is true to some extent with other professionals and careers, the medical narrative and power associated with "being a doctor" become irrevocably tied to their own sense of self.

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[158]   Klitzman 2008 – see note 36.

[159]   Klitzman 2008 – see note 36: page 34

[160]   Klitzman 2008 – see note 36: page 140.

[161]   Klitzman R. "Post-residency disease" and the medical self: identity, work and health care among doctors who become patients. 2006 *Perspectives in Biology and Medicine*, volume 49(4) Autumn: 542-52.

The threat of losing their job can challenge their deepest senses of meaning and self-definition. Their profession permeated their very beings. Generally, they had integrated their professional selves and identities, and now, when forced to abandon their career, faced crises. … But doctoring emerged … not merely as a matter of education and academic degrees. Physicianhood did not constitute merely a socially constructed role. Rather, these doctors *internalized* the white coats they wore. Even when they were no longer practicing medicine, this career permanently stamped them. This identity became profoundly embedded, functioning at multiple levels and springing from deep-seated fears and desires that at times operated despite these individuals, shaping their views, experiences and responses to the world.[162]

This study provides rich information, about the power of the Doctor Identity and the sometimes mistaken beliefs flowing from it. It also illustrates how hard it is – even in the shadow of their own mortality – for doctors to recognise the existence of the powerful and distorting lens on the world, gained through their education and training and maintained by various forces in throughout their lives. It is therefore difficult for a doctor to see the effect of this lens on his or her own perceptions and understanding of people, events and the work and social environment. In turn, this creates a view of reality in which they are unlikely to take any compensatory actions for their human vulnerabilities to avoid negative patient safety consequences.

Indirect reinforcement of the perception that a doctor is somehow less subject to human frailty also comes through examples of apparently ruthless sieving of students who themselves become ill during their training or have a disability[163]. Those who are seeking to assume the Doctor Identity are selected to confirm and reinforce the cultural stories and stereotypes favoured in the Doctor Identity.

Where practices and norms define the "Patient Identity" as separated from the Doctor Identity, this is said to allow a doctor to stay aloof from uncomfortable emotions which could otherwise "cloud" their judgement. A more powerful consequence is that necessary empathy for a truly effective therapeutic relationship is likely to be impaired. So powerful

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[162]   Klitzman R. *When doctors become patients.* 2008 Oxford University Press New York: page 297-298.

[163]   Takakuwa KM, Rubashkin N and Herzog KE. *What I learned in medical school – personal stories of young doctors* 2005 University of California Press, Berkley (California): Part 3 "Confronted" includes a number of stories of discrimination in medical training experienced by people who become ill, have a disability, are fat, are women or are from a "minority" race background in the US: pages 137-188.

is this separation that it results in doctors often ignoring their own health needs, not merely from busyness, but from a perception that, whatever they are, they are by definition, *not* a patient.

Chapter 7. Some new ways forward – a research agenda and actions

A. Introduction

This thesis contributes new knowledge through the development of a series of well-evidenced hypotheses which may explain why it has been so hard to get improvements in patient safety, despite an awareness and strong evidence that this is a significant and continuing issue for patients in health care. The thesis achieves this by drawing on evidence from a wide range of different disciplines to develop a new possible explanation for observations of actions which seem inconsistent with the medical maxim to "First do no harm". The hypotheses provide alternative explanations for why action to address known patient safety risks has been very slow, why doctors appear unaware of much of the harm occurring around them and why many doctors may not appear to be particularly engaged or interested in achieving safer care for patients.

The first hypothesis is that the occurrence of patient harm and medical error can be perceived psychologically by a doctor as a fundamental threat to her or his identity. The psychological significance is fundamental, because of the intensity and duration of the medical training process and the cultural, socio-economic and peer reinforcement of the Doctor identity, discussed in Chapters 5 and 6. Not only is the Doctor Identity important at a professional level, but at a personal level. The intensity and consistency of the formation and maintenance of the Doctor Identity means that it often becomes a doctor's main self-identity. A threat to the Doctor Identity is therefore likely to be perceived as a threat to psychological existence. At the very least, it is a threat to a highly desired, generally well-remunerated and rewarded life, the achievement of which is likely to have involved decades of work and delayed gratification.

The second hypothesis is that such a serious threat to identity causes a range of psychological defences, often rooted in the biological responses of the brain to threats to existence, and that these defences can make it hard for a doctor to recognise, identify or accept the risk of patient harm. Many of the psychological defences are triggered and act unconsciously and so rapidly that it can be difficult or impossible for a doctor to stop them

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occurring. The brain may even stop potential threat information coming to conscious awareness and alter memory to protect self-identity. Where doctors are unaware that they are subject to the same perceptual risks, biases and defences as other human beings, this may result in behaviour or inaction that increases risks of harm to patients. Unless the potential for harm is recognised, there can be no planning or commitment to pre-emptive action to prevent occurrence.

The third hypothesis is that elements of the Doctor Identity deny ordinary human psychological responses and physical limitations, and thus promote unrealistic self or group perceptions. This creates risks to both doctors and patients. Many of these risks may be avoidable through modifying these perceptions and developing more realistic self-and professional schemas.

If these hypotheses are correct, the explanation is not only consistent with the evidence across a range of disciplines, but offers the possibility for new and perhaps more effective action to reduce the harm to patients and to improve the lives of doctors. It may also provide support for better team-based care and more compassionate and humane health care.

B.   A research agenda

1.   A testable start

Primary research is likely to be possible in relation to the first of these hypotheses. With the greater availability of neuro-imaging, it is possible to undertake primary research about whether doctors perceive medical error and preventable harm as serious threats to their identity. For example, by exposing doctors to scenarios involving medical errors, patient harm and personal responsibility for unexpected patient outcomes or poor care while their brains are scanned, researchers could tell if these scenarios activated the threat areas of the brains of doctors.

The fear of making mistakes may also affect others whose career identity involves their ability to "know", such as lawyers and academics. It may even be that our society's mixed

messages about "learning from your mistakes"[1] makes the commission of an error create a sense of significant threat for others as well. Testing current mental models of what it is to be wrong and then focussing on how to encourage real learning from mistakes without producing shame or humiliation may have broad application in our society.[2]

The thesis also describes the process of professionalisation and consolidation of the doctor identity, as well as the biological threat mechanisms that appear to be triggered in all human beings, when there is a threat to their identity or existence. Many behaviours associated with doctors' responses to the occurrence of patient harm, particularly where it may involve them personally, appear to share characteristics with human responses to threat. There may be a need to trial more complex interventions or processes to test out and address these aspects of this thesis. For example, research needs to explore ways of increasing doctor awareness of their own psychological functioning, to explore means of influencing the formation and maintenance of the Doctor Identity towards more realistic and healthful self-perceptions; and to explore means of decreasing the use of shame and humiliation as tools in medical training and management[3].

2.   The Precautionary Principle

The other two hypotheses have significant evidence bases in ordinary human psychology. If the first hypothesis is correct (and there is also inferential evidence to support it), then it is plausible that the body of knowledge about human psychology in relation to threat could

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[1]   This mixed message is well captured in the title of the important book by Tavris and Aronson "Mistakes were made, but not by me". Tavris C. Aronson E. *Mistakes were made (but not by me) – Why we justify foolish beliefs, bad decisions and hurtful acts*. 2007 Harcourt Books, Orlando (USA). The combination of high expectations of performance and public accountability if an error is made can be a strong impediment to anyone to openly learning from their mistakes.

[2]   For example, two different perceptual models of wrongness – "doing wrong" and "being wrong" and the implications of these are discussed in some depth in Kathryn Schulz 's book *Being wrong – adventures in the margin of error*. 2010 Portobello Books, London (UK). It provides some useful techniques to reduce the emotional load of error, while increasing a sense of personal agency and accountability.

[3]   For example, the work of Brené Brown on shame and shame resilience, set out firstly in *I thought it was just me – Women claiming power and courage in a Culture of shame* 2007 Gotham Books, New York, and later in *The gifts of imperfection: Let go of who you think you're supposed to be and embrace who you are*. 2010 Hazelden, Center City (Missouri), discusses techniques for preventing and managing shame and humiliation. She has also produced an evidence based multi-media training course for psychologists and their clients, published as *Connections Curriculum – a 12 session psycho-educational shame resilience curriculum*. 2009 Hazelden, Center City (Missouri).

be drawn upon directly in the case of doctors, while pending further specific research in these areas.

The reason that such an approach may be ethically justified is that the known risk of a failure to act is that the demonstrated high level of patient harm will continue. Where harm is known to occur from either action or inaction in areas of scientific knowledge, but research about the causation is limited and certainty not yet possible, the correct ethical approach is to use the precautionary principle. Applying this principle to my thesis means that action research may be undertaken, pending scientific proof of the theory proposed in this thesis. This requires that the proposals for action provide a scientifically plausible solution to the known harm that will otherwise result from human conduct (in this case health care). I have used the term "action" research", because the precautionary principle allows the conduct of research actions which are consistent with that theory to be tested and reviewed, pending scientific proof of the theory. The aim is to reduce the risk of known harm where the link between harm avoidance and action is scientifically plausible. The principle is especially useful in complex areas (like health care), where there are "multiple dimensions of uncertainty"[4].

Under the precautionary principle, the adoption of solutions must be undertaken through an appropriate risk assessment process, weighing what is known about risk of harm from action and inaction, and the place of uncertainty. The management of risk involves a requirement to monitor and, where possible, measure the effects of action or inaction. In 2005, the World Commission on the Ethics of Scientific Knowledge set out details of a working definition of the Precautionary Principle, which is defined as an anticipatory measure designed to prevent harm, when there is a risk of harm to people or the environment.

> When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. Morally unacceptable harm refers to harm to humans or the environment that is
> - threatening to human life or health, or
> - serious and effectively irreversible, or

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4   United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST). *The Precautionary Principle.* March 2005: page 27

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- inequitable to present or future generations, or
- imposed without adequate consideration of the human rights of those affected. The judgement of plausibility should be grounded in scientific analysis. Analysis should be ongoing so that chosen actions are subject to review. Uncertainty may apply to, but need not be limited to, causality or the bounds of the possible harm. Actions are interventions that are undertaken before harm occurs that seek to avoid or diminish the harm. Actions should be chosen that are proportional to the seriousness of the potential harm, with consideration of their positive and negative consequences, and with an assessment of the moral implications of both action and inaction. The choice of action should be the result of a participatory process.[5]

The precautionary principle is not automatically triggered when scientific evidence to prove harm or benefit is not available or not strong. It requires that people look at whether the management of risk is possible, feasible or reasonable, and that the risk or benefit must be plausible and scientifically tenable. It provides support for action in those areas where there is known evidence of risk of harm, even where the exact extent is unclear. In these cases, it is up to a proponent of a known harmful strategy to prove that the risk of harm is minimal or non-existent or outweighed by potential benefit.

In some areas of risk described in the thesis, such as the likelihood of negative impacts from fatigue on doctors, patients, and others, the precautionary principle could justify early action to stop fatigue-inducing shifts and shift rotations. Indeed, in some countries, like those in the European Union, action has already been taken[6]. While there is scientific acceptance that human beings get tired, and this inhibits both performance and cognitive function, there remains a reluctance to change practices in medicine for many of the reasons discussed in the chapter 4 case-study. There continues to be denial of fatigue and a systematic failure in health care organisations to recognise that fatigue is a serious safety

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[5]   UNESCO and COMEST 2005 – see note 4: page 14.

[6]   The Council of Europe's European Working Time Directive (2003/88/EC) has set working hours for all workers in the European Union. The directive provided transitional derogation power under clause 39(c)(i) for services relating to hospitals (including doctors in training) but these were limited, with compliance to occur at the latest by 2012. These include a maximum work week of 48 hours and a minimum rest period of 11 consecutive hours per 24 hours. These limits applied to junior doctors in the UK from August 2009. In 2016, the British Medical Association noted that: "We are satisfied with EWTD as it stands and believe it protects doctors from the dangers of overwork whilst protecting patients from overtired doctors." BMA. Holding the line on working time. 18 May 2016. https://www.bma.org.uk/collective-voice/policy-and-research/international-policy/ewtd For full discussion of the various positions, see Temple J. Resident duty hours around the globe: where are we now? 2014 *BMC Medical Education*, Supplement, pages S1-S8. Available at http://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-14-S1-S8

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issue for both patients, doctors and others, such as other road users when a fatigued clinician is driving home[7].

The argument made by some doctors and administrators is that doctors must work long hours because then there is more continuity of care, and patients "like" it. However, this belies the known risk to quality of care from clinician fatigue and the strong evidence of empathy decline with fatigue. In a busy hospital, just being present on a shift for long periods (or for long shifts over a week) does not actually deal with continuity of care, but it certainly guarantees the negative effects of fatigue.

What is needed is a trial of options[8] which do not accept fatigue being built into a hospital operating arrangement., and separately addresses continuity of care and clinical handover so that patients are not put at risk by either a fatigued worker or poor handover of information. If hospitals continue to function by systematically overworking their staff, and patients are harmed, then it seems appropriate that the financial and moral risk of this rest upon the hospital administration. Equally, doctors and other staff should be protected and empowered to reject unsafe working hours and barriers to acting this way should be removed. Therefore, using the precautionary principle, it seems highly sensible to look more closely at solutions that either reduce risk or remove the cause of harm in both areas.

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[7]   The Australian Medical Association has just announced that it is undertaking another survey of working hours of young doctors. The last of these surveys was undertaken in 2011, so this is likely to be a useful addition to current knowledge. The Canberra Times article announcing this drew specific attention to the risk of harm from fatigue on the road. See Baker E. Doctors to audit hours in battle against fatigue. 2016 *The Canberra Times*, 30 October 2016, accessed at http://www.canberratimes.com.au/act-news/doctors-to-audit-hours-in-battle-against-fatigue-20161030-gsdxrk.html on 31 October 2016.

[8]   Appendix C of the 2009 IOM Report on resident working hours includes a summary of international experiences with limiting resident duty hours. Ulmer C. Wolman DM. Johns MME.(editors). *Resident Duty Hours: Enhancing sleep, supervision and safety*. Committee on optimizing Graduate Medical Trainee (Resident) Hours and Work Schedule to Improve Patient Safety, National Research Council. 2009 National Academies Press, Washington DC: https://www.ncbi.nlm.nih.gov/books/NBK214948/pdf/Bookshelf_NBK214948.pdf. There are also other occupations where 24-hour cover is required as well as a high degree of reliability of service, and these could provide other useful models – some of which already exist in hospitals.

3.   Quality improvement activities as research

In many areas of patient safety, there have been few "gold standard" clinical trials of the randomised double-blind prospective, controlled-trial kind. In many cases, this methodology may not be appropriate, because of the multivariate nature of the problem, the known risks of being in a non-intervention group and the impracticality of trialling practices on a double-blind manner in many real-life clinical situations. The research methodology of continuous quality improvement is probably more appropriate and useful to try different ways of improving quality care. In this form of research, an intervention is trialled after measuring a baseline, then the intervention is implemented and the outcomes measured again and evaluated to make any necessary refinements. The so-called Plan-Do-Study-Act cycle initially promoted by W Edwards Deming provides a widely recognised model for this kind of activity. There is evidence from a systematic review that often the research undertaken using these activities fails to "accord with primary features of the method", particularly the use of short-term iterative cycles over time.[9] Like poorly executive "gold standard" research, this concern means that it is just as important in quality improvement research that the research is properly carried out.

In a 2005 article looking at Evidence based Medicine and quality improvement[10], Don Berwick says that quality improvement activities, which do not reach the "gold standard" for evidence, can nonetheless do much to avoid the problems and biases that otherwise arise as "unguided human observers are frail meters of truth." He suggests that these activities, which he describes as "pragmatic science", need to have evidential rigour, but within their own terms, including:

- tracking effects over time, especially with graphs (rather than summarizing with statistics that do not retain the information involved in sequences);

- using local knowledge—the knowledge of local workers—in measurement (rather than relegating measurement to people least familiar with the subject matter and work);

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[9]   Taylor MJ. McNicholas C. Nicolay C. Darzi A. Bell D. Reed JE. Systematic review of the application of the plan-do-study-act method to improve quality in healthcare. 2014 *BMJ Quality and Safety*, April, volume 23(4), pages 290-298.

[10]   Berwick DM. Broadening the view of evidence-based medicine. 2005 *Quality and Safety in Health Care*, October, volume 14(5), pages 315-316.

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- integrating detailed process knowledge into the work of interpretation (inviting observers to comment on what they notice rather than ''blinding'' them to protect them against what they know);

- using small samples and short experimental cycles to learn quickly (rather than overpowering studies and delaying new theories with samples larger than needed at the time); and

- employing powerful multifactorial designs (rather than univariate ones when the better questions for the time are formative, not summative).

This methodology is likely to also be useful for other possible interventions in areas identified in this thesis, particularly where there may be local variations of practice. For example, the trialling of different shift arrangements or work practices during longer periods of work may provide a variety of different ways of avoiding and managing fatigue. Similarly, these methods may be useful for trialling different, healthier ways of managing the emotional responses of doctors and other health professionals to patient harm or unexpected outcomes. The effective use of this kind of research and the recording and publication of results could accelerate the speed, with which improvements can be achieved.

C.   How the hypothesised conceptualisation and understanding of the Doctor Identity may provide different possible solutions

There are many possible solutions suggested by the hypothesised connection between the threat to identity and attitudes and actions of doctors relating to patient harm. The relationship between the doctor identity and patient harm, as hypothesised through the lens of this thesis, includes the vexed relationship between patient harm and the perception of being a "good" doctor. In that case, there are two main directions for research:

- how to modify the Doctor Identity to a more realistic and safer basis; and

- how to reduce the threat to identity arising from patient harm.

Both these are complex questions and need to be tackled from multiple places. For example, the steps necessary to modify the doctor identity to one which is more realistic will involve working at multiple levels – with doctors, with patients, with the health system, with colleagues, probably over a long period. It is not enough simply to educate

new doctors in a different way. It will also be important to ensure that the modelled behaviours seen by them in their training will be different. This necessitates education of all doctors on their own potential vulnerabilities. It involves helping both trainee doctors and experienced doctors develop skills to work out effective ways of protecting patients and themselves. It also requires the development of ways of training young doctors in an environment which does not produce shame and humiliation.

Equally, the community needs to look at how it responds to errors and harm in health care, both in a legal and social manner, such as through the media. With the development and maintenance of empathy a high priority in achieving better outcomes for both doctors and patients, solutions are needed which place value in the relationships established in health care[11]. At the same time, doctors and patients need safe spaces to discuss problems and have honest exchanges about unexpected outcomes from whatever the cause.

It is unlikely that solutions to such complexity will be able to be produced in a timely manner using a normal scientific model of research and problem-solving that works one aspect at a time. However, it is still important to look as systematic ways of working in these complex areas to evaluate what works. The problem of patient safety inaction, examined through the lens of the thesis, can be envisaged in a richer and more complex way, possibly by conceptualising it as an example of a "wicked problem"[12]. These kind of problems are fundamentally different from those that the narrower, scientific method usually tackles, which the original authors of the term define as "tame problems"[13]. There is incomplete knowledge of all the influencing factors. There are a large number of people

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[11] For example, early work is being done in Whanganui in New Zealand, which has committed itself to moving towards being a Restorative City to shape the hospital, staff and patient complaints processes and management generally to maintain and preserve both patient safety and the relationships within health care by using more restorative practices. Personal communications with hospital management on a visit by the thesis author to Whanganui in October 2016.

[12] There are multiple names for the kinds of complexities faced in this area - sometimes called a "wicked problem" from the work of. Another name is a "Mess" (from the work of Ackoff – see note 15) or "Social Mess" (from the work of Horn – see note 16, which is defined as a system of problems which interrelate with each other and other problems. This definition has some attraction, because it includes ideological and cultural complexities. See, Horn R. Knowledge Mapping for complex social messes. Presentation to *Foundations in the Knowledge Economy*, 16 July 2001. http://web.stanford.edu/~rhorn/a/recent/spchKnwldgPACKARD.pdf.

[13] Rittel HWJ. Webber MM. Dilemmas in a General Theory of Planning. 1973 *Policy Sciences*, volume 4, pages 155-169.

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and organisations involved. The different factors and aspects of the problem are interconnected with each other and multiple other issues, and sometimes solutions for one conflict with solutions of the other.

This different conceptualisation of the nature of the problem can show different systematic methods of arriving at more appropriate solutions. For example, when failure to report adverse events was simply conceptualised as a compliance failure, attempts were made to fix the problem by making reporting obligatory. This was done using employment contracts, accreditation conditions or other regulatory instruments to "make" people report. Research has shown that such an approach has been singularly unsuccessful[14]. Conceptualising the problem differently opens up other possible ways of both analysing the problem and shaping the solution. For example, the idea of a wicked problem spawned the concept of a "mess [15]" or "social mess". Robert Horn of Stanford University developed a technique of Mess mapping and Resolution Mapping.[16] to develop way to deal with these complex problems. Other techniques such as dialogue mapping, which attempt to harness collective intelligence and reduce the forces of fragmentation might also offer some new and collaborative ways of working on these problems from multiple angles[17].Perceiving the linked problems of Doctor Identity, identity threat and inaction on patient harm as a system of interrelated problems can open up other tools for working out potentially different ways to tackle its complexity.

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[14]   Levinson DR. *Hospital incident reporting systems do not capture most patient harm*. Department of Health and Human Services Office of Inspector General, Report No. OEI-06-09-00091. January 2012.

[15]   The theorisation of "messes" was created and developed by Russell Ackoff from his first use of the term in 1974 in Ackoff R. *Redesigning the Future*. 1974 Wiley, New York: see mostly chapters 1 and 2. See also: Ackoff R. Systems Messes and Interactive planning. Chapter in Trist E. Murray H. Emery FE. *The Social engagement of Social Science: A Tavistock Anthology Volume 3: The Socio-Ecological Perspective*. 1997 University of Pennsylvania Press, Philadelphia (USA): pages 417-438. http://www.moderntimesworkplace.com/archives/ericsess/sessvol3/Ackoffp417.opd.pdf

[16]   Horn's concept of social mess extended Ackoff's idea to systems of interrelated problems and other messes. He describes a methodology for resolving complex problems of this nature in the following: Horn RE. Weber RP. *New tools for resolving wicked problems – Mess mapping and resolution mapping processes*. 2007: accessed at http://www.strategykinetics.com//New_Tools_For_Resolving_Wicked_Problems.pdf on 29 October 2016.

[17]   Conklin J. *Dialogue mapping: Building shared understanding of Wicked Problems*. 2006 John Wiley & Sons, Chichester (UK). For an introduction to the theory behind this method see Conkin J. Wicked Problems and Social Complexity, which is an extract from the book – available at http://cognexus.org/wpf/wickedproblems.pdf .

The next sections look at some of the problem and solution areas that are likely to need to be woven into an integrated systemic analysis of the kind discussed here. Equally, some of these may provide ideas for some of the quality improvement short cycle Plan-Do-Study-Act kinds of research. Determining which methods would be best may also vary in different settings, different groups and different individuals. Documenting and sharing the lessons is also important.

1. Reflection, truth and empathy – are these virtues good for patients and good for doctors?

The doctor-patient relationship has a deep ethical history in medicine[18]. The Doctor Identity has traditionally been understood to have a strong relational element because of this heritage. However, such relationships can be fractured administratively and otherwise in modern health care, through delivery of care in disconnected siloes and through the pressures placed on doctors to maximise throughput of patients. Evidence of the breakdown of the relational part of doctoring is often shown through the "othering" of patients or expressed though the so-called hidden curriculum within health care, discussed in Chapter 5 and 6 above. This is often exhibited through disrespectful comments about patients, ignoring the presence of the patient or family, not listening to what is said by the patient or family, and not talking *to* patients directly, but *about* them in their own presence.

While some doctors naturally have greater relational capacity and emotional intelligence, these are also skills that can be learned. If a doctor is able to communicate and empathise better and sees these skills as valuable and intrinsic to "being a good doctor", then these skills form a foundation upon which to engage differently with patients both when things are going well and when they are not. Relational trust develops and flourishes in the presence of mutual respect, truthfulness and empathy. The principles espoused in restorative justice and relational theory may be useful in this context, and this form of

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[18] See eg, Pellegrino ED. Thomasma DC. *The virtues in medical practice.* 1993 Oxford University Press, New York. See also Jonsen AR. *A Short History of Medical Ethics*, 2000 Oxford University Press, New York.

training could be used to assist doctors-in-training and in practice to develop these virtues, as part of their Continuing Professional Development.

Processes which encourage empathy and relationship between doctors and patients are arguably at the core of the transformation of the Doctor Identity from one of impossible perfection of performance, to one where the patient and the doctor work together in humility and compassion towards the health goals that the patient is seeking.

The introduction of reflective spaces and practices for doctors to reflect on their experiences, their feelings and their work, and to debrief about difficulties they are facing with specific patients in a way where new skills of compassion and empathy are taught is another idea. Doctors may need to allow time in their day for reflection on both their own needs and on their patient's outcomes. They may also need to develop skills to work out how to collect appropriate information on unexpected patient outcomes. Managers and trainers may need to ensure that doctors have available time in their day and the necessary skills to assist them to actually listen and understand their patients' needs in an empathic manner.

Part of changing the Doctor Identity should also involve refreshing the nature of what care means to patients, doctors and the health care system. Such an approach might increase and recognise the value associated with spending time with a patient, listening to their concerns and considering their issues empathically. A health care team could develop and share a common understanding of the priorities of care and act consistently and collaboratively to achieve this vision across the team at all levels. The complexity of transforming individuals, teams and institutions in a way to build empathy and trust is significant, and likely to require a multi-pronged approach, akin to the discussion above on managing wicked problems or social messes.

2. Doctors as whole, emotional beings – promoting resilience and well-being

Another complex problem is poor mental health and professional burnout among doctors and medical students. While the link is drawn in the thesis between these negative doctor

outcomes, patient harm and threat to identity, there are likely to be many other contributing causes to mental ill-health and professional burnout, which will need to form part of a package of solutions.

Doctors often ignore their own health and emotional needs, and need to be taught skills of self-care. They need to understand that self-care and patient safety are intertwined issues. Doctors, patients, health administrators, policy makers, the media, and others who transmit cultural stories about doctors are all actors in health care. All need to have a realistic view of the human nature of doctors, their limitations and what is safe practice for all. While there will always be occasions when any worker may be asked to act beyond the ordinary bounds of human performance in an emergency, a health system should not rely on such exceptional performance to meet basic health care needs. Such a plan will ensure the continuation of unsafe practices, high risks to patients and a sense of failure in doctors, which adds to the risk of mental ill-health and burn-out. The concept of the heroic doctor who never sleeps, is always calm and kind, and performs miracles over endless shifts that permeates much of our community's medical cultural mythology needs to be understood as a fiction. The community must understand that doctors are human beings whose performance is affected in the same way as everyone else's. This may free doctors from such impossible standards and ensure patients and potential patients understand the limitations and risks associated with health care. How this can be achieved requires a different way of looking at the problem, given its multi-faceted nature.

As noted in the thesis many times, medical error and preventable patient harm can cause harm to both doctors and patients. Where incidents of harm are badly managed, they can result in trauma to both doctors and patients from that process, and in a significant breakdown of trust and relationship. This can have a long term effect on the patient, who may no longer feel safe using the services of a specific doctor or institution, or indeed, any doctor or health service. This can result in someone who has been harmed once delaying presentation for health care or losing trust in the advice provided, which can have a negative long term impact on health. It can also have a long-term effect on the doctor – Chapters 4 and 5 discuss in some detail the psychological trauma for doctors and the health care team associated with patient harm, when there are no processes to help the individuals

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to acknowledge, discuss and recover from their part in the harm. Too often the processes currently in place are insensitive to the threat caused to the doctor, and can be both blaming and shaming, and even humiliating. Each of these emotional responses bring further trauma.

With the cycle of trauma that arises from unhealed trauma, this can lead to poor team relations, anger and irritability; personal health issues such as trouble sleeping, hypervigilance; and a loss of professional confidence and peer isolation. Processes for dealing with adverse events, errors, and incidents of preventable harm need to be managed in a way which is respectful of patients and doctors, which acknowledges harm done and the anguish suffered and which is constructively focussed towards repairing relationships. Such restorative processes need to be focussed squarely on ethical duties of doctor to patient, rather than on saving money for the institution by "hiding" or obfuscating an unexpected outcome.

Active strategies to avoid trauma and training that addresses trauma healing and resilience, like the Strategies for Trauma Awareness and Resilience[19] training, that was developed by the Eastern Mennonite University, could be shaped to focus on the shared traumas of doctor and patient arising from patient harm and disrespectful care. It is known that the impact of trauma seldom "goes away" of its own accord, and that active strategies to address the legacy are needed to allow healing.

This is another example where it is likely that effective resolution of the problems relating to the well-being of doctors, especially in relation to preventable patient harm, and the harm done to patients may be best seen as inter-related problems, with a wicked problem lens. This may provide a way of minimising future harm to both doctors and patients as well as healing past trauma.

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[19] Yoder CE. Barge EZ. *STAR Strategies for Trauma Awareness and Resilience -The Unfolding Story 2001-2011*. This is available as an E-book at http://emu.edu/cjp/star/sept-11th-commemorative-book/download/star-the-unfolding-story.pdf , accessed 31 October 2016.

D. Bringing medical error and preventable patient harm to attention

1. Counting and reflection– engaging the scientist within

It is often stated as a maxim that 'unless something is counted it doesn't count', and health care is particularly poor at collecting and using data on patient harm. The lack of success of this may well be linked to the perception of threat to identity caused by the attribution of harm to their care, with the potential tumultuous cascade of patient and family distress, professional shaming and even disciplinary action. Discussions with doctors will often see them distinguishing between "unexpected outcomes" and "adverse events". In most cases, from a patient and family's perspective, an unexpected outcome is an adverse event., the more so, if the patient and family were not informed beforehand of the possibility of this outcome.

Nevertheless, there is a possibility that a shift of language may assist a change in practice if it does not give rise to the same threat. Doctors could be asked to collect information on unexpected patient outcomes, rather than harm or adverse events, and this could allow the collection of this information in a less identity threatening manner. In addition, patients could be asked to identify and record their own unexpected patient outcomes as a way of cross-checking and avoiding the effects of inattentional blindness, discussed in Chapter 3. Clearly, a less threatening context will also depend upon the use made of the data. If doctors and patients saw this as their shared information collected to improve their care and that of others, this may help engage the scientists within both parties. If they were then able to have a respectful open discussion when an unexpected outcome occurred, this could assist in a culture transition. Systematic collection of information on patient outcomes (whether expected or unexpected) allows a more informed and evidence-based discussion to occur.

It is widely recognised in systems engineering, that until it is known what is going wrong, it is very difficult to fix a problem. However, there are often few systems to record where an unexpected outcome occurs or to easily match up what was the expected outcome to see if there was a difference. For more than a century, doctors have stated that the measurement of patient outcomes is the only way to determine if health care is really delivering on its

social purpose to alleviate suffering. The recording of patient outcomes should be an ordinary part of the fulfilment of a doctor's ethical and professional duties to patients. Hospitals should have readily accessible data on this through their medical records. To determine if each incident of care was effective, specific information that is often not recorded should be recorded. Such information should set out:

- what was the patient's concern;

- what was the doctor's tentative diagnosis before testing;

- what the tests (if any) showed;

- what treatment was recommended;

- what was the outcome of the treatment;

- whether there were any unexpected outcomes; and

- how the patient progressed over various periods (depending upon the nature of the diagnosis and treatment).

These were the basic measures set out by Codman[20] in his work on patient outcomes a century ago, and there is still little systematic collection of this data throughout health care. Where outcome data is rigorously collected, for example, in some specialty collections like the Australian Orthopaedic Association's National Joint Replacement Registry[21] and various sub-specialty collections such as the Australian and New Zealand Neonatal Network[22], this data allows the rapid expansion of knowledge and speedy detection of causes and contributing factors to unexpected patient outcomes.

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[20]   Codman developed an "End Result" system, looking systematically at patient outcomes, mishaps and mistakes, He resigned from his full-time medical position at Massachusetts General Hospital in 1911, he implemented the system in his own hospital, then published his data. Codman EA. *A Study in Hospital Efficiency*. Reprinted by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). 1996 JCAHO Press, Oakbrook Terrace (USA). For a short history of Codman's pioneering efforts, see Neuhauser D. Ernest Armory Codman MD 2002 *Quality and Safety in Health Care*, volume 11, pages 104-105.

[21]   The Registry has a high participation rate among orthopaedic surgeons, and produces publicly available report on an annual basis. There are also specific reports for consumers. It is funded entirely by the Commonwealth Department of Health. All these are available on the Registry website: https://aoanjrr.sahmri.com/

[22]   The Network collects data from all level III neonatal intensive care units and a number of Level II special care units. It has done so since 1995 and issues public reports on the data on an annual basis. The most recent published report is: Chow SSW. Le Marsney R. Haslam R. Lui K. *Report of the Australian and New Zealand Neonatal Network (ANZNN) 2014*. 2016 ANZNN, Sydney: accessed at http://www.anznn.net/Portals/0/AnnualReports/Report%20of%20the%20Australian%20and%20New%20Zealand%20Neonatal%20Network%202014.pdf . on 31 October 2016.

Similarly, the IHI Trigger Tool[23] and the Advanced Incident Monitoring System[24] developed by the Australian Patient Safety Foundation (APSF), while apparently well documented for detecting and analysing adverse events, have had limited infiltration in Australia. The IHI Trigger tool methodology is claimed to detect many more adverse events than are picked up by conventional incident reporting systems. The original APSF AIMS incident monitoring system also allowed the inclusion of many other variables in the reporting of adverse events, so that a much richer analysis for prevention could be undertaken. Many Australian jurisdictions opted for a financial risk management focussed system, which did not collect sufficient information on incidents to facilitate their prevention. The APSF and other systems also suffered from significant delays in reporting of data and analysis. If real progress is to be made in understanding why unexpected patient outcomes occur, then resources must be available to allow data analysis and dissemination, not just collection.

Some elements of the Doctor Identity, such as doctor focus on high achievement, the scientist within and the ethical doctor, provide positive counterbalances to the possible identity threat seen in the collection of such data. For example, if doctors can see that there is a "competitive edge" to be gained by measuring unexpected patient outcomes or a professional requirement to do so, they may well be happier to be engaged[25]. Rather than data being seen as part of a "policing strategy", data collection could then be seen as a way

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23   Griffin FA. Resar RK. *IHI Global Trigger Tool for Measuring Adverse Events*. IHI Innovation Series white paper. 2nd Edition 2009 Institute for Healthcare Improvement, Cambridge (Massachusetts). The Trigger Tool is also explained on the Institute for Healthcare Improvement's website: http://www.ihi.org/resources/pages/tools/ihiglobaltriggertoolformeasuringaes.aspx .

24   https://www.apsf.net.au/About_Us.html.The incident monitoring work of the APSF was first funded under the work of the Professional Indemnity Review and was piloted in a number of specialties. One of the Colleges – the Australasian College of Emergency Medicine continues to use this as do a number of other organisations, including the Royal Australian and New Zealand College of Radiologists. The work across specialties was documented in the Professional Indemnity Review's Final Report: Review of Professional Indemnity Arrangements for Health Care Professional. *Compensation and Professional Indemnity in Health Care – Final Report.* November 1995 Australian Government Publishing Service, Canberra: paragraphs 5.86-5.174. The APSF has also used its expertise internationally through the World Health Organisation's Patient Safety Project to develop an International Classification for Patient Safety: see http://www.who.int/patientsafety/implementation/taxonomy/en/.

25   Atul Gawande's 2004 article from *the New Yorker* showed how reporting of the best outcomes led to competitive improvements. Gawande A. The Bell Curve. 2004 *The New Yorker* 6 December: accessed at http://www.newyorker.com/magazine/2004/12/06/the-bell-curve on 31 October 2016.

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of exhibiting a positive competitive edge, as part of their scientific endeavour and/or as part of their ethical obligations to their patients. Subspecialties or disease groups have historically picked up data collection as part of their mission or as a challenge, and this data has been very important in the improvement of outcomes for patients, as discussed above. They have often used patient outcome monitoring to look at individuals or teams that had excellent outcomes to see why they were better than others[26].

Methods of general patient outcome measurement could be developed and taught by Medical Colleges, Universities or clinical excellence or standards bodies, to help doctors learn effective ways to monitor and reflect on their own performance. The idea of data collection on patient outcomes as an ethical or professional obligation could be introduced through the regulatory power of the Australian Health Practitioner Regulation Agency. At the institutional level, this could also be a professional requirement of individual doctors to gain visiting rights. Over time, this professional data collection would also provide a potential resource for more evidence-based credentialing processes in hospitals. The data could also be used to determine the appropriate clinical privileges that specific doctors should exercise. There is also the possibility of hospital fostering of such data collection through a compulsory requirement of facility accreditation under the Australian Commission for Safety and Quality in Health Care.

2.   A modified systems approach – a key to understanding, not avoidance

Part of the current discourse on patient safety was to talk about "systems, not people", whereas in most of health care, the systems are to a large extent made up of and by people. Health care is made up of the attitudes, beliefs, values and practices of individuals working together in administrative and physical systems, which are also designed and overseen by other people. Therefore, an explanation which sees patient safety as a "system" issue, not a "people" issue, does not give the best message. To achieve change in a health system, people have to believe that they have individual and group agency and efficacy.

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[26]   See Neonatal Network example at note 22.

They also have to properly understand a problem. An example, is where a patient is not changing a wound dressing as required. The doctor may see the person as wilfully disobeying an instruction and be angry or dismissive of them. In reality, the patient is having trouble dressing the wound because he can't bend over and lives alone and has no-one to assist, or he cannot afford to buy dressings as often as needed. If the patient feels safe enough to tell the doctor why they are not dressing the wound, the doctor then can look at other ways to assist the patient. A similar open and empathic investigation is needed to understand why patient harm has occurred or why someone made an error or did an action which resulted in harm. Root-cause analysis was designed as just such a tool, but often poor implementation and inadequate training about the mechanism has resulted in a continuation of the blame culture or a failure to follow-up on actions to address underlying "system pathogens".

It is important to consider the identity implications for doctors and others to avoid "systems approaches" being used as an excuse for inaction. Such inaction misunderstands the reasons to look at systems. One way of stopping this, at the same time as promoting a restorative culture around preventable harm, is to use the mechanism sometimes discussed in the corporate responsibility arena of "reactive fault"[27]. Where a person does harm which is not caused by prohibited conduct (like coming to work alcohol or drug affected), then if they are honest about it and engage in development of a response to avoid a recurrence, then no disciplinary action would be taken. If, however, they do not act on recommendations to ameliorate or make reparation for the harm done, then this second failure may be seen as a disciplinary offence. This supports positive action and an open culture, but it makes failure to act on a known problem the grounds for action. This may be argued to be closer to Reason's "just culture" or to a restorative justice approach to health care harm identification and reduction.

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[27]   This concept was spelled out in the work of Brent Fisse. See Fisse B. Reconstructing corporate criminal law: Deterrence, retribution, fault and sanctions 1983 *Southern California Law Review*, volume 56, pages 1141- 1246: at pages 1183-1213. Fisse places "reactive fault" in the location of "corporate fault". However, as a concept, it could be used to apply to both individuals and corporations to foster desired actions to prevent repeated harm in the future.

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3. Consumer engagement – the view through another lens

The better engagement of patients and consumers in health care governance, design and management provides a range of solutions to patient safety, which otherwise can be limited through the application of only a medical "lens". Patients often see the events around either an instance of harm or an unexpected patient outcome quite differently from the doctor or other health care team members. Equally, when doctors are considering patient safety issues that relate to unrealistic self-perception, for example, decisions about long shifts, sometimes the presence of a patient or a consumer representative can remind doctors that they are subject to normal human limitations. Where doctors and administrators are making financial decisions that impact on patient care, patients can often also ask questions about the effect on patient care and draw attention to the experience or priorities of service users. While doctors sometimes argue that they too have been patients or their family members have been patients, this may or may not have helped them to see themselves, their colleagues of their services with a different lens.

Often where a doctor has had such an experience and moved their "gaze" from the medical professional to the patient, carer or consumer "gaze", it can profoundly change their approach to medicine and their understanding from the consumer's end of the transaction. In addition to the examples provided in Chapter 6, another more recent example of a doctor who has been through such a process is Dr Robin Youngson, a New Zealand anaesthetist. His daughter was seriously injured in a car accident and while he believed she had great technical care which led to her full recovery, he and his wife saw that the lack of empathy, compassion and humanity in her care as deeply disturbing. This led the couple to start an organisation called Hearts In Healthcare whose worldwide mission is to re-humanise health care[28].

Consumers not only provide a different perspective and lens in health care, but equally importantly, they are able to bring a degree of external scrutiny. Where consumers are properly trained for the role, they can oversee and ensure greater accountability for decisions made across health systems. Their different lens also allows them to reflect the public or community interest, rather than the sectional interests of the various professions

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[28] The website for the movement is at http://heartsinhealthcare.com/ .

or the bureaucracy. This is a different task from the consumer lens function in individual service design and delivery, but nonetheless, it is an important part of producing a more patient-centred culture and focus to health care. This is very important in a transition to a just culture in relation to patient harm. Consumers can provide some level of assurance that decisions are not simply being made to protect the hospital's financial interests, rather than to ensure appropriate outcomes for patients.

E.   Training for compassion, empathy and humility – the test for effective medical education

As discussed in chapter 5, there has, for a long time, been a focus in medical training on the technical aspects of medicine, often to the exclusion of other important skills. There is a growing focus on compassion in health care, and an expanding evidence base to show that an empathic doctor creates a positive space for the patient to recover and heal. However, many doctors and medical educators still think of these skills as "soft skills", despite the evidence set out in Chapter 3 that empathy has a proved therapeutic effect[29]. This reference is often used to contrast with the real "hard skills" of medicine. Yet from the perspective of this thesis and from most patients, it is crucial to ensure that these so-called soft skills are embedded in the understanding of what it is to be a good doctor. Some skills, like humility, and the capacity to value the skills of others – whether patients, family or other health professionals – also help to shape the whole experience of patients in health care. They may also reduce the likelihood of errors and harm which flow from not listening to others. They may also reduce the power gradient, which means all team members (including the patient and their family) are heard respectfully.

At the deepest level, the practice of many of these skills should become small parts of every action and interaction day-by-day in the doctor-patient relationship. However, the psychological literature discussed earlier in the thesis shows that when someone is tired or stressed by pressure of work or other emotional stressors (like the death of a patient), they

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[29]   For hypotheses on why patients get better faster and more often with empathic care, see Decety J. Fotopoulou A. Why empathy has a beneficial impact on others in medicine: unifying theories. 2015 *Frontiers in behavioral neuroscience*, January, volume 8, article 457, pages 1-11.

may not be in a good position to exercise these skills. If the goal of being a good doctor was no longer achieving perfect emotional regulation, doctors would need to be able to recognise the existence of these physiological effects on their own psychological equilibrium to act appropriately. Once they are self-aware, doctors can then consider the likely human impact of their own fatigue and stress on their team members and on their patients and family. At another level of empathy, doctors may begin to understand the effects of stress and fatigue on the behaviours of other team members and patients. This empathic understanding helps to foster and sustain positive team and doctor-patient relationships.

It is not sufficient to embed these values in the training of young doctors and medical students, where they are entering a professional world that has its own sense of the Doctor Identity, based on an outdated and unrealistic model of a "good doctor". As noted earlier in the thesis, both individual and collective identities can be difficult to change, especially when many of the attributes are unspoken. As such they exist as part of a collective misguided but powerful dream.

Because of the power of modelled behaviour on young doctors, there is strong evidence that it is necessary to change the behaviour of doctors who are already practicing. They will need to be educated about the dangers embedded in mistaken views about the achievement of consistent perfect performance. Many may also need an understanding of normal human emotions and physical conditions (like fatigue) that effect performance and can give rise to vulnerability. Work has already been done on part of this, through the University of Sydney's work for the Australian Council for Safety and Quality in Health Care[30] and the WHO as part of their 2009 and 2011 Patient Safety Curriculum Guides[31].

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[30]   The forerunner of the WHO work was the National Patient Safety Education Framework, produced for the Australian Council for Safety and Quality in Health Care (ACSQHC) by the Centre for Innovation in Professional Health Education at the University of Sydney, under the leadership of Associate Professor Merrilyn Walton and Dr Tim Shaw: ACSQHC. National Patient Safety Education Framework. July 2005: available at https://www.safetyandquality.gov.au/wp-content/uploads/2012/06/National-Patient-Safety-Education-Framework-2005.pdf on 31 October 2016.

[31]   The World Health Organisation (WHO) first released a Medical School Curriculum Guide in 2009 and then a Multi-professional version in 2011: World Health Organisation (WHO). *WHO Patient Safety Curriculum Guide for Medical Schools*. 2009 WHO, Geneva; World Health Organisation (WHO). *Patient Safety Curriculum Guide. Multi-professional Edition*. 2011 WHO, Geneva.

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However, these are unlikely to be sufficient, on their own, to bring about a paradigm shift because of the barriers arising from the Doctor Identity, and because of the complex interactions with the mores and behaviours of established doctors.

The skills associated with "humanising healthcare" are diverse, and the knowledge of the neuroscientific basis of many doctor responses to the threat to identity posed by patient harm not widely known. All of these need to be built into Continuing Professional Development, through bodies like Medical Colleges. There may also be a role for regulators, such as the Australian Medical Council, the Australian Health Practitioner Regulation Agency and the Australian Commission for Safety and Quality in Health Care. They could develop requirements that people were able to demonstrate this knowledge and provide practical examples of how this was enacted in their practices. Some of this might be as simple as doctors seeking feedback from patients about their experience as a patient, where these kinds of characteristics and skills are identified in the survey as desirable attributes and explained in lay language. These could also help patients and doctors have conversations that can create stronger relationships.

Health care now is sometimes not being provided in the context of a long term relationship between a single doctor and patient, but rather through a practice or practices where multiple doctors may be seen by the one patient over time. In these more complicated group relationships, it would also be important that training and skills be provided to all people working in the treating teams and environments. The culture of the practice, the service or the facility will then carry these same messages and exhibit the same concerns. This then supports a different and more appropriate practice group identity for both patients and doctors. Where this is a positive one for patients, it may encourage greater loyalty to a particular practice, though with long waiting times for appointments, clinical need can sometimes override a sense of loyalty. New safe models of quality care need to be developed in this changing environment.

The skill and practice of compassion, empathy, humility and reflection can become embedded in every day practice, but it can take time in the day. In modern health care, being a good doctor can also be associated with getting through vast quantities of work, to

service the financial needs of the hospital or even the doctor's own financial commitments. This can result in a measure of worth that ignores both the humanity of the doctor and the needs of the patient and family. A true redirection of the moral compass of health to support compassion, empathy, humility and reflection requires the provision of time and places as part of everyday work to imagine and enact these values. This requires health systems to reallocate priorities so that care, respect, compassion and humility can flourish. It also requires a true commitment to the health and welfare of its own staff, as well as patients.

F. Engaging doctors as change leaders – engaging motivation and ability

Many of the desirable aspects of the refined Doctor Identity which are likely to produce a sense of identity which has fewer of the negative impacts on patients and doctors in the patient safety area are present in the new and emerging curricula of Medical Colleges and the requirements of regulatory authorities[32]. While these vary, most include requirements about communication, collaboration and leadership, and are framed in similar terms to the CanMEDS Physician Competency Framework[33]. This defines leadership in the following manner:

> As Leaders, physicians engage with others to contribute to a vision of a high-quality health care system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, or teachers.

Many of these competencies set out in these frameworks have the potential to reduce some of the problems associated with "perfect performance" models, so that doctor in specialist

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[32]   See eg, the Postgraduate Medical Education Councils of Australia. Australian Curriculum Framework for Junior Doctors, which includes 3 learning areas: Clinical Management, Professionalism and Communication. Professionalism includes the competency of self care and Doctors as leaders under Professional behaviour, and respect, breaking bad news and open disclosure in the patient interactions competency, and working in teams under Communication. http://www.cpmec.org.au/ACF-2010/structure.cfm The curriculum of the Royal Australasian College of Physicians is currently being revised and it has 10 competencies for Basic Adult training, including Leadership, management and Teamwork, Communication and Quality and Safety. https://www.racp.edu.au/trainees/curricula/AIMBasicTrainingCurriculum/basic-training-competencies

[33]   This was revised in 2015 http://www.royalcollege.ca/rcsite/canmeds-e . It has fewer roles than the Royal Australasian College of Physicians one above (7), but includes Communicator, Collaborator and Leader.

training and their trainers each learn about their own vulnerabilities. Equally, they provide opportunities to embed some parts of the compassionate healer model in both College training specialists and their trainees. However, these are still new, and their ability to enhance change requires their adoption by more senior staff as well as the shaping of new doctors. While the clear statement of such competencies can foster change, they are likely to take some time to filter into everyday practice.

However, if experienced doctors begin to see the benefits to themselves that arise from this shift, the speed of change may well be accelerated. It is recognised in the research set out in Chapter 2 that the support of doctors is not sufficient to achieve transformation of practice or culture, but that their opposition can easily stymie such change. Therefore, it will be important to inform and engage senior as well as junior doctors in leading efforts to change. Ackoff[34] suggests a collaborative process called idealised design for complex transformation, on the basis that

> Improvement of an existing condition or state requires a clear vision of what is wanted, not a clear vision of what is not wanted.

Albert Bandura's theories of self-efficacy[35] and moral agency[36]. are both relevant to the production of change in the areas raised in this thesis and provide an alternative methodology for change. Doctors, as leaders, need to feel they are capable of achieving change, and they need to feel that they are acting consistently with their sense of moral agency[37]. Bandura's theories have been used to develop mechanisms for broad scale social change[38]. The book, *Influencer* examined examples of broad scale change, and saw that to achieve these changes, it was necessary to affect the majority of 6 different areas of

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[34]   Ackoff R. Rovin S. *Redesigning society*. 2003 Stanford University Press, Stanford (California, USA): see page 2 and Chapter 1 for the method description.

[35]   Bandura A. Self efficacy mechanism in human agency. 1982 *American Psychologist*, February, volume 37(2), pages 122-147.

[36]   Bandura A. Social cognitive theory of moral thought and action. Chapter in Kurtines WM, Gerwits JL. (editors) *Handbook of moral behaviour and development*., volume 1, 1991 Erlbaum, Hillsdale (New Jersey, USA), pages 45-103.

[37]   As noted in chapter 6, social structures (like hospitals or professions) can seek to impeded the exercise of moral agency, and these barriers to action must also be addressed. Macintyre A. Social structures and their threats to moral agency. 1999 *Philosophy*, volume 74, pages 311-329.

[38]   Patterson K. Grenny J. Maxfield D. McMillan R. Switzler A. *Influencer – the power to change anything*. 2008 McGraw-Hill, New York.

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influence. The two domains of influence the authors describe are motivation and ability, while the three sources of influence are personal. social and structural[39].

- Personal motivation – creating new experiences and new motivations;
- Personal ability – helping people gain and practice skills including emotional skills;
- Social motivation – harnessing peer pressure;
- Social ability – building social capital
- Structural motivation – designing the right rewards, ensuring accountability
- Structural ability – modifying the environment to make doing the right thing easy.

They argue that the three sources of influence are supported respectively by psychology, social psychology and organisational theory, as academic bodies of work, and that all these six sources of influence are needed to tackle most complex problems.

The first step in their change program is to identify behaviours, and then distinguish those which they describe as "vital behaviors"[40]. These are the behaviours that distinguish high performers from low performers, and generally give rise to "a cascade of change". They also suggest searching for "recovery" behaviours which are those that help change get back on track rather than give up the change effort. Behaviours describe an action not an outcome. Once these have been identified, then they suggest trialling a range of possible behaviours and measuring which ones appear to work best in the specific environment – called testing for positive deviance - and then test again[41]. In essence, this is a Plan-Do-Study-Act research cycle.

They assert that behind each vital behaviour are the 6 areas of influence noted above. Stories and moral engagement are powerful influencing strategies for motivations (especially in health care where doctors and other normally have an intrinsic motivation to help people). Another strategy to influence motivation and overcome reluctance to try something new is to create new experiences that are fun.

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[39]   Patterson et al. 2008 – see note 38 - Part 2 at Chapters 4-9. Chapter 10 describes how to the influencers together to achieve change.

[40]   Patterson et al. 2008 – see note 38: chapter 2.

[41]   Patterson et al. 2008 – see note 38: pages 35-41.

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Setting out the whole methodology and applying it to the issue of doctor behaviour in relation to error and safety identified in this thesis, is beyond the scope of this thesis. Nonetheless, it seems a research strategy worth exploring. Two of the initiatives analysed in *Influencer are* in the health care arena: the 100,000 lives campaign and the subsequent 5 million lives campaigns initiated by Dr Don Berwick and the team at the Institute of Healthcare Improvement. This methodology may provide options for engaging doctors actively to address a problem, which when conceptualised, is one where the solutions are likely to benefit them as well as patients. This could harness the leadership in the medical profession and individual doctors to enact parts of the changes necessary. One of the elements discussed in the literature on Wicked Problems and social messes is that it is only through engagement of all stakeholders that change will be possible. Without a participatory model to actually describe fully the complexity, Ackoff noted in 1974 that a less inclusive process, which tries to break down complex problems into discrete analytical spaces "not only usually fails to solve the individual problems that are involved, but often intensifies the mess. The solution to a mess can seldom be obtained by independently solving each of the problems of which it is composed."[42] This is a view shared in *Influencer* as well.

G. Conclusions

As noted earlier in this chapter, the findings of this thesis are set out in three hypotheses centred around the relationship between patient harm, the Doctor identity and the threat to identity caused by the possibility or actuality of patient harm. If these hypotheses are correct, the explanation is not only consistent with the evidence across a range of disciplines, but offers the possibility for new and perhaps more effective action to reduce the harm to patients and well as to improve the lives of doctors. It may also provide support for better team based care and more compassionate and humane health care. In some cases, there is a sense of intuitive accuracy with the issues described, for example, the impact of fatigue of both doctors and patients and the need for better data on unexpected patient outcomes to design effective safety strategies. In other cases, the thesis posits

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[42]   Ackoff R. 1997 – see note 15, at page 428.

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relationships which appear to be worth exploring in further research, for example, to explore ways of increasing doctor awareness of their own psychological functioning, to explore means of influencing the formation and maintenance of the Doctor Identity towards more realistic and healthful self-perceptions; to explore means of decreasing shaming and humiliation as tools in medical training and management; and to develop more restorative and constructive processes to manage unexpected patient outcomes and medical errors.

Determining whether these hypotheses are a reasonable alternative or supplementary explanation to understand why action to address patient safety issues overall has been very slow, is an important public policy issue. This is because, even at the most modest estimates, the human and financial costs of preventable patient harm is very significant, not just in Australia but throughout the world. If the modest WHO average figure of 10% of admissions involving an adverse event is taken as a likely minimum, there are currently more than 600,000 people in Australia annually who suffer preventable harm in public hospitals alone[43]. While most of the incidents of harm to patients result only in temporary disabilities or the need for extra treatment, in some cases people die or suffer significant permanent disabilities. Using the Quality in Australian Health Care study data and 2014-15 hospital separation data, this would involve around 29,000 lives shortened by their health care and more than 81,000 people with some degree of permanent disability.[44] This is not satisfactory or acceptable – it describes a harm tolerant system, with significant risks, rather than the purported high-quality health system propounded by Governments and expected by the community.

Action was needed two decades ago when the data from the 1995 Quality in Australian Health Care Study was first known and treated by the then Federal Health Minister as a

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[43]   This estimate applies the 10% harm rate of the WHO to the Australian hospital statistics for 2014-15. This is a modest estimate using the number of hospitalisations of public acute hospitals only -just under 6 million hospitalisations. The total number of hospitalisations across all kinds of hospitals was over 10 million, giving an upper range of 1 million adverse events using the WHO estimate. Australian Institute of Health and Welfare (AIHW) *Australia's hospitals 2014-15 at a glance.* Health services series no. 70. July 2016 AIHW, Canberra.

[44]   These estimates use the modest public acute adverse event estimate from note 43, and apply the proportions of different consequences of adverse events identified in the Quality in Australian Health Care study referenced in Table 1.2 in Chapter 1 of 13.6% of adverse events resulting in permanent disability and 4.9% resulting in death.

matter of public importance. While efforts have progressed in modest ways, there has not been the kind of quantum leap that many expected once the issue of preventable patient harm was documented in detail. It is hoped that this thesis may provide a new understanding about why the issue has been so intractable, and to provide some new insights to support different action that could lead to greater progress over the next two decades.

In addition, this thesis provides insights to reduce the harm also being done to providers of health care, in particular, doctors. Doctors suffer from their own impossible desire for consistently perfect performance and from their own unrealistic expectations of their cognitive and physical performance under stress, fatigue and trauma. A more humble understanding by doctors of their own human limitations and vulnerabilities, is not however, enough. The health system and the community must recognise and act upon doctors' unmet need for support. Administrative arrangements and practices in hospitals and other places where health care is delivered must recognise the human physical and emotional needs of doctors and seek to meet them to reduce the high rates of mental ill-health and burnout, suffered by doctors and discussed in this thesis.

In my experience, doctors would like a health system which allowed them to be the most compassionate and empathic carers that they can be. Patients would like to have empathic care from doctors, who listen to them and who they trust and believe are working to keep them as safe as possible when they are vulnerable. The hypotheses put forward in this thesis require attention to the threat to the Doctor Identity which is currently intrinsic to the occurrence of medical error and patient harm. Changes which honour both doctors and patients, must acknowledge and address this impediment to patient safety progress, to achieve the shared dream of safe, humane and empathic health care within a reasonable time.

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