

**“If we can’t measure it,
we can’t do it”**

**The role of health outcomes in
community and allied health
service accountability.**

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Thesis resubmitted in January, 2003
for the Degree of Doctor of Philosophy
Australian National University

Statement of originality

The work documented in this thesis has been undertaken whilst I was enrolled as a student at the Australian National University. None of the work presented in this thesis has been submitted for credit for any other degree or part thereof. To the best of my knowledge, it contains no material, written or published by another person, except where due reference is made in the text.

Signature:.....

Date:.....

Acknowledgements

I am indebted to a number of people for their support on this journey. Dr Dorothy Broom took me under her wing and encouraged me through multiple incarnations of this thesis. If she ever ceased to believe in me, she never showed it. She also enabled me to see health, and the health world through a new set of eyes. I suspect that this was the greatest lesson for me in undertaking this research. Dr Paul Dugdale helped me maintain my sanity by sharing my enthusiasm and frustration with the health outcomes field, engaging with me and extending my mind into areas that I am still not sure I understand, but at least showing me the potential! Associate Professor Nicholas Glasgow, who as both my PhD supervisor and my boss has been supportive and understanding throughout my study and employment. Professor Karen Grimmer has been a wonderful mentor throughout the latter part of my study and helped me grapple with some of the specific issues around health outcomes for allied health.

I would also like to express gratitude to many of my other colleagues at the National Centre for Epidemiology and Population Health, particularly Professor Bob Douglas, Professor John Deeble, Dr Gabriele Bammer, Dr Bev Sibthorpe, Dr Charles Guest, Professor Louis Pilotto and of course, my fellow students, particularly the former members of “Club Jelly” whose initiation to the PhD process ensured that studying was never dull!

To my close friend, Kate Senior, who shared all my PhD and personal joys and insecurities whilst carrying her own burden – thank you. Jim Collins, whose support from the management perspective has been invaluable, as has your friendship - and of course the regular supply of M and M’s!

My colleagues at ACT Community Care, particularly the Academic Unit of General Practice and Community Care provided much of the inspiration for this thesis, as well as endless support and encouragement. I am particularly indebted to Julie Clark whose hard work and enthusiasm enabled me to submit my thesis before leaving for the UK. Mrs Kathy Vanduren from the Department of Veterans' Affairs and the health service providers and patients who participated in various components of this work, thank you for your input and feedback.

My friends at Sheffield Hallam University; Dr Allister Butler, Dr Gail Mountain, Dr Anne Hollows, Robyn Bowen and Dr Peter Hilliard - thank you for encouraging me to finish the modifications when it would have been much easier not to!

Mum and Dad, this is for you. Thank you for your unconditional love and support throughout my adventures.

Abstract

Health outcomes fulfill a number of roles in the health sector. Economists, clinicians, researchers and managers use health outcomes in a range of different contexts for distinct purposes. New management approaches that use contracts as the basis for health service accountability have attempted to take health outcomes from their clinical role into a management setting. In particular, the purchasers and managers of some health services expect that service providers should demonstrate that they improve the health outcomes of their patients to justify their on-going funding.

However, a number of organisations have experienced barriers to the application of the outcomes approach to health service management and there has been no systematic evaluation of the approach. Nor has there been an investigation into why purchasing organisations have difficulty introducing health outcomes into purchasing contracts. The result is that managers and purchasers continue to assign resources to the pursuit of health outcomes as an accountability tool.

This thesis addresses two research questions around the use of health outcomes in community and allied health service accountability. The first is the barriers to the application of health outcomes to health services accountability. The second question examines the conditions that must be met before health outcomes can be used as an accountability tool in purchasing contracts for allied health.

The research questions are addressed through the analysis of case studies that explore systematically the approach taken by two organisations, the Department of Veterans' Affairs and ACT Community Care, in their attempts to identify health outcomes that could be used in purchasing contracts for community and allied health services. The case study analysis uses a health services research approach that draws on multidisciplinary techniques including epidemiology, health services management and anthropology.

The thesis describes the accountability interactions within the purchaser-provider model. Accountability is not a uniform construct. It consists of many domains, levels and interactions. In health service delivery, there are a number of different actors and a wide range of interactions for which they are accountable. Two important interactions are identified: professional accountability, which describes the accountability of the health service professional to their patient; and contractual accountability, which is the obligation of the health service provider (or providing organisation) to the purchaser through their contractual agreement. I conclude that health outcomes are not an appropriate domain of contractual accountability but they

are an important component of professional accountability and I discuss the implications of these finding for theory and practice.

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Acronyms and Abbreviations

ACHS	Australian Council on Healthcare Standards
ACT	Australian Capital Territory
ACTCC	Australian Capital Territory Community Care
ACTCOSS	Australian Capital Territory Council of Social Security
ACTDHCC	The ACT Department of Health and Community Care (major purchaser of disability and health services within the ACT)
ADP	Alcohol and Drug Program
AHCA	Australian Health Care Agreements
AHMAC	Australian Health Ministers Advisory Council
AHMS	Allied Health Management System
CHCP	Community Health Care Program
CYFW	Child Youth Family and Women's Program
DVA	Department of Veterans' Affairs
EBM	Evidence Based Medicine
FHSQ	Foot Health Status Questionnaire
GP	General Practitioner
HbA1c	Glycated Haemoglobin A1c
HRQoL	Health related quality of life
IAU	Intake and Assessment Unit
ID	Identification
IDS	Integrated Diabetes Strategy
IHCP	Integrated Health Care Program
IT	Information Technology
MDT	Multi-disciplinary team
Mgt	Management
NHS	National Health Service
NSW	New South Wales
OHIP	Oral Health Impact Profile
Pt	Patient
QoL	Quality of Life
SF-36	Short –form thirty six (a health related quality of life measure)
UI	Unique Identifier

1 Introduction

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1.1 Thesis overview

The ultimate test of the efficacy and effectiveness of medical care is its outcome on patients (Starfield 1974:39).

What is the role of health outcome measures in health service accountability? Health outcomes are perceived as the ‘ultimate validators’ of health care quality and effectiveness (Donabedian 1966; Starfield 1974:39). Therefore, it makes sense that service providers should be held accountable on the basis of the outcomes of their care. New management approaches, which use contracts as the basis of health service provider accountability, have attempted to do exactly that by incorporating health outcomes into purchasing contracts. However, in the majority of cases, the organisations have been unable to use health outcomes, relying instead on other indicators of health service quality and effectiveness (Weller, Holt et al. 1997). This thesis systematically explores the approach taken by two organisations, the Commonwealth Department of Veterans’ Affairs and ACT Community Care, in their attempts to identify health outcomes to be used in purchasing contracts for community and allied health services.

1.2 The research problem

If we can't measure it, we can't do it.

This statement was made by a health promotion manager at a workshop I attended in 1997. It emphasises a perception shared by many of the health service providers with whom I work. That is, they believe that they are expected to justify their professional existence on the basis of measurable improvements in the health status of their patients or ‘health outcomes’ and they will not be permitted to engage in activities that cannot be legitimized this way. This view is reinforced by the academic literature, policy makers, managers, professional associations and importantly, by the organisations that purchase health services (Ellwood 1988; Walters 2000; Wrobel 2000).

It seems obvious that the goal of health services should be the optimisation of health outcomes. Yet, when I graduated as a podiatrist less than ten years ago, I had never heard the term ‘health outcomes’. I started working in private practice, unquestioningly applying my limited repertoire of skills to a wide range of conditions. I knew I had delivered good care when the patient said, “I feel like I’m walking on clouds”. If the patient did not return, I assumed that they were unhappy with my care. As far as I am aware, none of my patients lost any of their toes as a result of my treatment. A few of my patients actually ‘got better’ but in fact, most

returned every six to eight weeks for the management of ongoing foot problems - whether they needed to or not.

This did not mean that I was not concerned about my patient's outcomes, but I had never considered measuring or quantifying them. Since I have started studying health outcomes, I have asked a number of providers how they know they are delivering effective services. A chiropractor told me, "I've just always done what I've done and never questioned it really." A dentist said, "I think my bank balance is a pretty good indicator that I'm doing a good job". Many others said that they did not know.

The emerging culture of accountability now means that these answers are not good enough. Health service providers who have previously been protected from scrutiny, particularly within the domain of patient care, are gradually having aspects of their practice exposed to purchasers, insurance companies, the public, registration boards and professional associations (Weller, Holt et al. 1997; ACTCOSS 1999; 2001).

The term 'health outcomes' has infiltrated most areas of health service delivery during the past decade, accompanied by other discourses of accountability including 'evidence based medicine', 'best practice', 'quality assurance', 'clinical guidelines', 'effectiveness', 'performance' and 'accreditation' (Strathern 2000). This jargon would not be complete without an emphasis on 'stakeholders' and 'consumers'. Most of these terms are not new, nor are they unique to the health sector. They have been borrowed and adapted from private sector management principles that emphasise efficiency, accountability and the power of consumers (Shore and Wright 2000).

One result of this new language is that over the past decade, health service organisations and purchasers have shifted their emphasis from simply the provision of a certain *amount* of care to a focus on the effectiveness of that care (ACT Health 1998). Since the output of health services is health outcomes, it makes sense that they should be able to demonstrate their effectiveness in terms of the measurable outcomes of care. In reality, however, few health organisations do actually measure and report on health outcomes, but they still deliver services. This dilemma underpins the research problem that I address in this thesis.

My interest in the role of health outcomes in health service accountability arose through my work with two organisations, the Commonwealth Department of Veterans' Affairs and ACT Community Care. Both organisations adopted new systems of governance which resulted in revised models of accountability for the purchasing of allied and community health services. Health outcomes were the common theme underpinning the accountability systems in each case.

Both organizations experienced difficulties with the application of the outcomes approach. They were not alone. The Divisions of General Practice, New South Wales Health and the Department of Veterans' Affairs Community Nursing attempted to adopt an outcomes based funding model (section 2.5). None of these organisations were able to implement the outcomes approach as they had originally intended. Instead, they funded a series of short-term health outcome projects, or introduced innovative, but resource intensive quality monitoring systems for health service providers (Weller, Holt et al. 1997). Even the evaluation of the National Health Goals and Targets on the basis of health outcomes was fraught with difficulties that led to numerous modifications to their framework (Nutbeam, Wise et al. 1993).

The widespread use of the term 'health outcomes' in the literature, by health service managers, researchers, health economists, policy makers and purchasers has been accompanied by a prevailing perception that health outcomes can form a basis of health service accountability (Ellwood 1988; Hayward, Ciliska et al. 1996; ACT Health 1998). In other words, health service providers are expected to demonstrate that the health services they deliver improve health outcomes so that they can justify their on-going funding. The attempts by ACT Community Care, the Commonwealth Department of Veterans' Affairs and other organisations to include health outcomes in their purchasing agreements illustrates this perception. Notwithstanding the logic inherent in the health outcomes argument, there are few, if any, examples of their effective implementation in purchasing contracts. However, to date there has been no systematic evaluation of the approach. Nor has there been an investigation of the reasons that organisations have difficulty implementing the use of outcomes in contracts.

This thesis investigates the barriers to the application of health outcomes in health service accountability through the systematic evaluation of the outcomes approach in two community and allied health services.

1.3 The research settings

Two contexts are of importance for this research. The first is the social context that has led health service organisations in Australia to focus on new models of accountability. The second is the organisational settings in which the empirical research is conducted.

The social setting for this research, and indeed the underlying drive for changing mechanisms of accountability can be described in terms of changing models of governance. Governance refers to the methods that societies use to distribute power and manage public resources and problems (United Nations Development Program

2000). The changing models of governance are symptomatic of the increasing rationality of governments, or, what Michel Foucault called 'neo-liberal governmentality' (Foucault 1991). This refers to government adoption of free market principles in economics and the activities of the state, as well as the conduct of individuals. Accountability is one of the key components of the new governmentality and is defined as the process through which actors are held responsible for their actions (Fox and Brown 1998). The new managerial approaches have many names including New Public Management and new-managerialism (Hood 1991).

The health sector has adopted the principles of modern governance in a number of ways that influence all levels of service provision. One of these is the disaggregation of public sector bureaucracies into separate purchasing and providing organisations where the agreed outputs of care are defined by contracts between the purchasers and the providers (Bloom 2000). Accountability will be described in more detail in section 2.3 of the thesis.

The setting for the empirical research involves two Australian organisations, both of which have adopted new models of governance for the provision of community and allied health services. Both organisations use contracts as the basis for their purchasing relationships and attempted to incorporate health outcomes into those contracts.

ACT Community Care, is an example of an organisation that has undergone bureaucratic separation from the primary purchaser of its services, the ACT Department of Health and Community Care. The focus on health outcomes and outputs arose through the use of contracts as a mechanism of accountability in the purchaser-provider separation.

Unlike ACT Community Care, which is the major *provider* of a range of community health services within the ACT, the Commonwealth Department of Veterans' Affairs *purchases* health services on behalf of veterans nationally. In contrast to ACT Community Care, where the purchasing contract specifies the outcomes and outputs between the purchasing and providing *organisations*, DVA enters into contracts with *individual health service providers* for the provision of allied and community health services. As a result of the different organisational structures, two distinct approaches to the use of health outcomes emerged.

Both organisations had the common desire to embrace outcomes management to ensure the accountability of health service providers. Further, both organisations had to compromise from their intended approach of including measures of health outcomes in contracts between the purchaser and the provider / providing organisation. The role of health outcomes in purchasing contracts for community and

allied health services by ACT Community Care and DVA forms the organisational setting of this thesis.

I have chosen to use the term ‘community and allied health services’ to describe the types of care provided by ACT Community Care and the Commonwealth Department of Veterans’ Affairs. The literature fails to adequately define the term “allied health” (Grimmer, Sheppard et al. 1999) and the use of this term would not do justice to the wide range of service types offered by the two organisations. For example, the services provided by ACT Community Care include alcohol and drug counseling and methadone support, disability housing and support services as well as a wide range of more traditional health services, such as nursing, physiotherapy, occupational therapy and podiatry. An important component of the community based care provided by ACT Community Care is their links with other community organisations such as Meals on Wheels, Home Help and Handy Help which are normally labeled as community services. The definitions and roles of community and allied health service providers are described in greater detail in section 2.2.

DVA purchases a wide range of services for veterans, including community services. Community health services were purchased and managed separately to allied health services at the time of undertaking this research. The Local Medical Officer (LMO) acts as the gatekeeper to the majority of allied health services including speech pathology, dietetics, physiotherapy, podiatry, dentistry, occupational therapy, social work, psychology, prosthetics and orthotics, chiropractic and osteopathy. All but the latter two services are provided by ACT Community Care.

1.4 The research questions

Through the analysis of the case studies, I aim to address two questions around the use of health outcomes in health service provider accountability;

1. What are the barriers to the application of the health outcomes approach to health service accountability for community and allied health services?
2. What conditions must be met before health outcomes can be used as an accountability tool in purchasing contracts for allied health?

1.5 Methodology

The research questions are examined within a health services research framework. Health services research is defined as

the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations (Academy for Health Services Research 2000:1).

The principal analytical tool employed within the research is case study analysis. However within each case study, a variety of research techniques have been employed, including surveys, focus groups, interviews and the examination of archival sources.

The multidisciplinary nature of health outcomes research means that I have drawn on a range of disciplines to examine the application of the outcomes approach, including health service management, epidemiology and anthropology.

Health service organisations form the primary research domain for this thesis. Within the two organisations, I examine professional and managerial relationships, particularly with respect to accountability roles.

1.6 Scope of the research

This research draws on empirical data obtained from case studies of two Australian organisations that attempted to incorporate health outcomes into purchasing contracts for community and allied health services. This thesis does not aim to achieve generalisability in a statistical sense. Instead, I aim to make a heuristic contribution to the understanding of the applications of health outcomes to health service accountability by other organizations intending to apply a similar approach.

The result of this thesis, therefore, is not a set of rules that can be taken and applied elsewhere. Rather I envisage that other health service organisations can take the logic that I have derived from this investigation to help inform their own application of the health outcomes approach in similar settings. The research has implications for the theory of health outcomes and accountability by clearly defining the parameters for the use of health outcomes in a range of settings.

1.7 *The structure of the thesis*

There are six chapters and four appendices in this thesis.

Chapter Two commences with a description of the community and allied health setting of the research and the barriers to clearly defining this group of providers. The changing accountability requirements of health service organisations and individual providers forms the second part of the chapter. I argue that it is the increasing need for transparent and explicit measures of health service accountability that have led health service purchasers, funders, managers and providers to embrace health outcomes. I describe the features of health outcomes that have reinforced their appeal to this audience. A number of Australian organisations have adopted the outcomes approach over the past decade and encountered some difficulties. I review the outcomes models adopted by six organisations, including an example from the education sector, and discuss the implications of these for the application of outcomes in health service accountability. The need for a systematic investigation of these barriers leads to the research questions, which concludes the chapter.

Chapter Three discusses the case study approach and the issues of generalisability and validity employed in this study.

Chapter Four presents the first case study. ACT Community Care is the major provider of community based health and disability services within the ACT. In 1996, ACT Community Care underwent administrative separation from the purchaser, the ACT Department of Health and Community Care. The result of the purchaser – provider separation was a move to contracts as the basis for funding and accountability. The nature of contracts, emphasising outcomes and outputs rather than inputs and processes, led those involved to try to identify health outcomes that could be incorporated into the purchasing contract. This chapter describes the approach adopted by ACT Community Care, and the compromises they had to make.

In contrast to ACT Community Care, which is a health service *provider*, the Commonwealth Department of Veterans' Affairs (DVA) is a large *purchaser* of health services. As a result of the requirement to adopt new models of health service provider accountability, DVA wanted to identify health outcomes that could be included in purchasing contracts with over 30 000 providers. They too compromised in their approach. In **Chapter Five** I describe the process undertaken by DVA to identify health outcome measures for allied health professionals and the resulting model they adopted.

In **Chapter Six**, I introduce the analytical framework of the thesis to examine the reasons why health service organisations are unable to apply the health outcomes

approach in the way that they intend. The analysis focuses on the accountability interactions within the purchaser-provider model. Accountability is not a uniform construct. It consists of many domains, levels and interactions. In health service delivery, there are a number of different actors and a wide range of actions for which they are accountable. Two important interactions are identified: professional accountability, which describes the accountability of the health service professional to their patient; and contractual accountability, which is the obligation of the health service provider (or providing organisation) to the purchaser through their contractual agreement. I identify the role that health outcomes can take within each model of accountability. This in turn clarifies the barriers to the applications of health outcomes theory as each organisation has attempted to apply it.

Chapter Seven concludes the thesis with a discussion of the theoretical, policy and management implications of the findings from this research. In particular, I describe the implications of the research for the applications of health outcome measures and new systems of accountability in the health service setting. I discuss the importance of these findings for community and allied health services, patients, clinicians, managers and purchasers.

1.8 Contributions of the research

This research makes several contributions, both to the theory and the applications of health outcomes and community and allied health service accountability.

The review of the literature contributes an understanding of the complexities of the group of practitioners that come under the banner of ‘community and allied health services’ in the Australian context. The potential breadth and variability of these services creates a distinct set of needs for the introduction of accountability systems which are likely to differ from the acute care sector, where the majority of existing models have been developed.

The examination of health outcomes within an accountability framework, whilst logical, has received little explicit attention within the literature. The exploration of the changing systems of accountability provides a context in which the barriers to the application of the outcomes approach can be clearly explored from the perspective of a range of stakeholders and for different purposes.

The discussion of published examples of six organization’s attempts to introduce the outcomes approach, and the barriers that these organizations faced, challenges the widely held belief that health outcomes are a useful accountability tool.

The in-depth investigation of two organizations that attempted to introduce the health outcomes approach provides unique insights into the issues, barriers, organisational and structural requirements in each case. This is the first time such an analysis has taken place in the context of community health organizations in Australia. Whilst there is value in the uniqueness of each case, the cross-case comparison provides valuable insights for purchasers, managers and clinicians attempting to introduce the outcomes approach in other settings.

The research outcomes can inform purchasers and funders about the appropriateness of the use of health outcomes as a mechanism of accountability for community and allied health services. By examining health outcomes within an accountability framework, the role of health outcomes is seen in the context of a wide range of alternative indicators of health service accountability and effectiveness.

Managers and health service providers can use the results of this research to aid decision making about the measurement of health outcomes in the clinical setting. The research describes the conditions that must be met to ensure that health outcomes data are useful and meaningful. It also describes the management and accountability hierarchies necessary to ensure that all stakeholders use outcomes information effectively.

The acceptability and expectation of public accountability in all areas means that it is an area ripe for investigation. This thesis provides a basis for accountability analysis within community and allied health services.

2 Health outcomes and community and allied health service accountability

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2.1 Introduction

Outcomes allow for accountability by clearly measuring performance and characterising the impact of treatment
(Edelstein 1998:212).

The health outcomes rhetoric has lulled many purchasers and funders into the belief that they can capture the multiple processes and structures that go together to make up health service delivery into a single outcome measure (Sax 1990). The research that forms the basis of this thesis arose from my experience with organisations that attempted to augment their traditional indicators of health service accountability, such as volumes and costs with more meaningful measures of health service effectiveness using health outcomes. The above quote encapsulates the expectations of these, and other organisations that have embraced the health outcomes approach. Yet, there are few examples of the successful application of the approach in its pure form. The difficulties faced by funders, purchasers and managers that have tried to adopt health outcomes management is rarely acknowledged. The result is that the health outcomes discourse is gaining popularity in health service settings with little guidance about the appropriate methods of implementation or the barriers that the organisations may face.

This chapter introduces the rationale for the adoption of new accountability mechanisms by health service purchasers, funders and managers. A review of the health outcomes literature demonstrates why health outcomes appear to be a logical solution to the new accountability concerns, whilst illustrating some of the barriers to their application. The health outcomes approach has been adopted in a number of contexts for the purpose of ensuring health service efficiency, effectiveness and resource allocation. As part of the review of the literature, I examine examples of the application of outcomes in six Australian organisations and describe the successes, barriers and compromises identified within each.

2.2 Community and allied health services

The setting for this research is community and allied health services. In this section of the literature review I describe the characteristics of community and allied health service providers and the contextual and pragmatic issues that bring them together. I briefly examine the issues around 'medical dominance' and the relevance of this for my research areas.

I have chosen to use the term 'community and allied health' to describe the services covered in this thesis because of the large number of practitioners who do not identify with the label of 'allied health', such as nurses, disability workers and alcohol and drug case managers. These practitioners sometimes work alongside allied health professionals, under the same organisational structures and together in multi-disciplinary teams, thus their accountability requirements are similar. However, there is not a collective term that appropriately describes them. Even the label 'community and allied health' does not accurately portray the scope of practice of these providers. The term 'community' has the effect of locating them within a particular sector of health care. In fact, these providers deliver services from the public and private sector, in hospitals and the community, education, welfare and local government. Disability workers are generally not identified as 'health' providers because they do not diagnose or treat health conditions (Australian Bureau of Statistics 1997). Rather, they help their clients to function optimally in the context of their physical, social and economic environment. Because of the lack of a single label to appropriately describe these services, I will continue to use the term 'community and allied health'.

Little has been written about community and allied health service providers collectively. Instead, the literature is fragmented into descriptions of allied health, and within that, the multiple, poorly defined and contextually dependent disciplines from which they are constituted (Boyce 1996). Alcohol and drug services, whilst often included under the banner of 'community health', include a range of providers, some of whom have no formal training in the area. Disability services are not always co-located with health services and they have a discrete literature. Nursing is traditionally allied with medicine and is most commonly seen as hospital based care. However nurses also fulfill a diverse range of roles in the community setting which they often undertake with a great deal of autonomy.

The term 'allied health' was first used in 1966 by the US Department of Health Education and Welfare when describing health care professionals in legislation addressing workforce shortages in the health field. Since then, the term has been widely adopted, however there is still no consistent definition of allied health. In the United Kingdom, the Cope Committee began investigations into 'medical auxiliaries' in 1949, which included radiographers, chiropodists, physiotherapists, laboratory technicians, dieticians, almoners and speech and language therapists (Larkin 1983). The Professions Supplementary to Medicine Act 1960 was introduced for the registration of all of the above disciplines, except speech therapists (who withdrew during the course of the bill). The council of the Professions Supplementary to Medicine presided over these (and other) disciplines until it was restructured as the Health Professions Council in April 2002 (Department of Health 2000). Boyce

identifies the first National Allied Health Conference in 1992 as a pivotal time for the development of allied health as a recognisable entity in Australia (Boyce 1996).

International variations in definitions of allied health services are apparent. In the United Kingdom, historical systems of care organization and funding have led to a clear separation between 'health' and 'social' care that is less distinct in Australia (Hudson 2002). Definitions of which disciplines constitute allied health services in the UK under the Health Professions Council include physiotherapists, occupational therapists, speech and language therapists, arts therapists, dieticians, medical laboratory scientific officers, orthoptists, chiropodists, prosthetists and orthotists, radiographers, clinical scientists, paramedics (Department of Health 2000). In Australia, it is less easy to identify the component providers because of the variations in settings and funding models that influence the approaches to care.

The use of a collective term to describe community and allied health providers has little clinical significance given the diversity of their roles and training. However, the relatively small numbers in each of the component disciplines calls for a unified approach (Federwisch 1998). In the 1996 census there were over 150 000 nurses and nearly 45000 general and specialist medical practitioners in Australia (Institute of Health and Welfare 2001). In contrast, there were 23000 dentists, just under 9000 physiotherapists and only 1500 podiatrists (Appendix A). As a result of their individual small sizes, allied health services are often seen and managed collectively within organisations and by purchasers and funders (Boyce 1996; The Coalition of Health Professionals 2001). The Commonwealth Department of Health and Aged Care has supported the united approach through a range of multi-disciplinary funding initiatives (National Allied Health Casemix Committee 1999; National Allied Health Best Practice Consortium 1996).

The potential for the 'allied health' label to exclude other disciplines is reinforced by the number of organisations representing these services that do not include 'allied health' in their title. For example, the Australian Council of Allied Health Professionals was renamed the Health Professions Council of Australia in 1998 (Health Professions Council of Australia 1998). Other groups include the Coalition of Health Professionals in New South Wales and the Tasmanian Health Professions Council. The natural union of the smaller, and sometimes more marginalised health providers whose membership consists of services other than allied health may call for the creation of a new collective description which acknowledges the dynamic nature of the health workforce.

The Health Professions Council of Australia (HPCA) was established to represent allied and other health professionals on national health issues and claims to be the

largest national representative of allied health professionals (Health Professions Council of Australia 1998). The Council aims to position itself as the "third force" in health, to ensure allied health professionals are strongly represented at the Commonwealth level, along with the established voices of medicine and nursing.

A number of state and regional groups have formed to represent allied health and other non-medical professionals for lobbying purposes and to support specific needs of professionals and patients. An example is the Coalition of Health Professionals (NSW) which was formed in response to the introduction of 'preferred provider' purchasing models by health insurance companies (The Coalition of Health Professionals 2001). Similar models have evolved in other states. These groups provide each of the disciplines with bargaining strength and political lobbying power that their individual small sizes do not allow. The needs and interests of individual rural allied health providers are supported through the Services for Australian Rural and Remote Allied Health (SARRAH 2000).

National commitment to community health in Australia was first made through the Whitlam government in 1973 (Palmer and Short 1994). The Community Health Program was introduced to reduce the dependence of the community on institutionalisation, shifting the emphasis of health service delivery to disease prevention rather than treatment and providing an alternative to traditional medical care in the delivery of health services.

Publicly funded community and allied health services are purchased, managed, organised and delivered in different ways due to variations in the ways that the states embraced the Community Health Program and subsequent Commonwealth initiatives such as the Home and Community Care Program (HACC), the National Drug Strategy and the recent Enhanced Primary Care (Palmer and Short 1994; Commonwealth Department of Health and Aged Care 2000). Boyce undertook a seminal study of the organisation of allied health professions in Australian General Hospitals, however this research has not been repeated in the community setting in Australia (Boyce 1996).

Two distinct community and allied health service organisations are illustrated by the case studies in this thesis. The Department of Veterans' Affairs purchase services from conventional allied health services such as dentists, physiotherapists, occupational therapists, as well as the less traditional domains of chiropractic and osteopathy within their allied health classification (DVA 1999). The services are generally purchased as individual occasions of care from private providers or hospitals. In contrast, ACT Community Care does not employ chiropractors or osteopaths, but provides services through a range of programs, often within multi-

disciplinary teams. For instance, a diabetes team may include combinations of diabetes educators (who are generally nurses), podiatrists and dieticians. ACT Community Care also employs disability case managers and alcohol and drug workers (ACT Community Care 1999) and manages the provision of allied health services both within the community and in The Canberra Hospital (ACT Health 1998).

There are a number of other models for the provision of community and allied health services including case management and case coordination. The recent national coordinated care trials investigated central fund-holding and service coordination for the purchase of services including community and allied health services (Kalucy, Esterman et al. 2000). A similar approach has been adopted by the recent Enhanced Primary Care (EPC) initiatives of the Commonwealth Department of Health and Aged Care which reimburses general practitioners for coordinating the multiple care needs of their patients (Commonwealth Department of Health and Aged Care 2000).

Services have been established for groups with particular needs, such as aboriginal and islander health services, youth and women's health. Each of these models present different possibilities for the organisational structure of community and allied health services which will depend partly on the availability of local service providers and the needs of the particular community in which they work.

State and regional variations in health needs, service availability and funding mechanisms means that the organisation of community and allied health service providers is likely to be highly contextually dependent. The specific disciplines included in the two case studies are physiotherapists, chiropractors, osteopaths, social workers, occupational therapists, podiatrists, alcohol and drug case workers, dieticians, psychologists, prosthetists, dentists and community nurses. Rather than describe them in detail here, I have summarised their roles, educational prerequisites, state registration requirements, gender ratios and typical employment settings in Appendix A.

Much of the commentary on allied health services revolves around the relationship between allied health and medicine (Friedson 1974; Gardner and McCoppin 1996). Allied health professionals have long been seen as subordinate to medicine through medicine's 'restricted recognition' of their role (Willis 1989). Gerald Larkin, in his book *Occupational Monopoly and Modern Medicine*, describes the influence of the medical profession in defining (and restricting) the scope of practice of allied health professions in the UK over the past century due to their control over much of the legislation regarding health practice (Larkin 1983). Whilst no comparative study has been undertaken in Australia, the medical profession's ability to limit the work of

allied health professions can still be seen. For instance, as recently as 1998, podiatrists in Queensland were prevented from obtaining limited medication prescribing rights in a bid to the Poisons Review Committee. Queensland Health convened a meeting in which objections were raised by 'key stakeholders', consisting predominantly of members of the medical profession (Bennett personal communication, 2002). In the US, state variations in legislation and regulation influence the extent of medical dominance. For instance, the Montana Medical Association claims the authority to monitor requests by non-medical providers to increase their scope of practice (Montana Medical Association 2002) because they perceive that they, as doctors, preside over all health care issues.

*Only medical physicians have attended ... (extensive training) ...
Only medical physicians therefore have the education or training to
oversee the entire health profession's scope of practice (Montana
Medical Association 2002).*

The divisions between medicine and allied health are described in terms of disparities in income, autonomy, status and power, which have been attributed to the predominance of females in allied health professions (Gardner and McCoppin 1996). However, the notion of medical dominance has been criticised on the basis that the parameters of medical dominance and professional autonomy are poorly defined and professional relationships are inevitably subject to contextual differences (Boyce 1996).

The lack of a detailed analysis of Australian community and allied health services outside of the hospital setting makes generalisations about the impact of medical dominance difficult. Additionally, state variations in regulatory systems mean that there are likely to be different levels of medical control over the roles of particular disciplines. Medical dominance is likely to be influenced by different models of community and allied health service organization and funding. For instance, most community and allied health professions in Australia now enjoy first contact practitioner status, in that they do not require a referral from a medical practitioner in order to provide care, with the exception of some funders, such as the Department of Veterans' Affairs (Palmer and Short 1994). Community and allied health service providers are employed in a variety of settings that confer professional autonomy. For instance, the disciplines of physiotherapy, psychology, speech pathology, dietetics and podiatry have an extensive private sector workforce, reinforcing the notion of professional autonomy (Selby-Smith and Crowley 1995).

The importance of the dominance of the medical paradigm for this research is its influence on the accepted models of determining health service effectiveness for

community and allied health services, which most disciplines have adopted unquestioningly. For example, many disciplines embrace evidence-based practice which specifies a hierarchical approach to evaluating the quality of information about health interventions (Sackett, Rosenberg et al. 1996). Evidence based practice privileges certain types of evaluation, which have typically been less appealing to community and allied health services.

For instance, physiotherapists have developed their own database of randomised controlled trials called the Physiotherapy Evidence Database (PEDro) (Sherrington, Herbert et al. 1999). The developers of this system acknowledged that many physiotherapy trials are not accessible on Medline and that few physiotherapists have the appropriate research skills or resources to undertake either randomised controlled trials or a systematic review of the literature. This lack of appropriate research skills and access to resources has been emphasised in a study of Australian podiatrists (Payne 1999). Postgraduate research is a relatively recent innovation for many community and allied health disciplines, providing limited capacity to support the growth of evidence based research. A further complication for community and allied health service evaluation, given the diversity of service types and locations, is the difficulty accessing valid and reliable data (Baker, Norton et al. 1998; McColl, Roderick et al. 2000). The appropriateness of the accepted technologies for evaluating the broad range of community and allied health service interventions has not been critically examined.

For the purpose of this thesis, community and allied health services can best be described as a clinically diverse group of non-medical providers that are united for practical management purposes or collective bargaining power. There is not a single model that accurately captures the way that community and allied health services are organised and delivered outside the hospital setting in Australia. Examples of two, distinct models are illustrated in the case studies. The dominance of the medical paradigm is attributed with shaping the constructions of appropriate practice for many of the component disciplines.

The following section describes the changing systems of accountability within the health sector which have led purchasers, providers and managers to embrace the health outcomes approach.

2.3 Accountability in health care

The notion of accountability in health care has evolved radically over the past century and continues to change at a rapid pace. These changes can be attributed to a number of social and economic factors that have converged to create an increased focus on

the transparency of different aspects health service provision. As a result of the variety of interpretations and applications, accountability is a complex area to explore and describe. This section examines some of the interpretations of accountability and its current role in health service delivery and management.

Three key movements or phases in health care stand out in terms of their influence on the current approaches to accountability;

- The professionalisation of medicine and subsequently, other health related disciplines;
- The scientific validation of medicine; and
- New-managerialism.

Because each of these factors are largely described in separate bodies of literature and from different perspectives internationally, it is difficult to clearly determine their temporal and practical inter-relationship. Neo-liberal governmentality, or one of its applications to management, 'new-managerialism' is attributed with introducing the most significant changes to the current concept of accountability, thus, much of the recent literature explores the range of accountability concepts through this paradigm (Shore and Wright 2000). However, in the health field at least, the other movements pre-date new-managerialism. In many cases, new-managerialism has integrated components of the professional and scientific approaches to accountability, and adopted them as a management responsibility. For instance, the use of health outcomes in purchasing contracts illustrates a shift in the concept of health care quality from an implicit, professional responsibility to an explicit management responsibility. In this section, I will examine different definitions of accountability and the contribution and application of each of the above three approaches to the current application of accountability within the health field.

2.3.1 What is accountability?

The range of influences on the notion of accountability have changed the way that the term is used (Mulgan 2000). The traditional definition of accountability is 'to be called to account to an authority for one's actions' (Jones 1992). However, the term accountability has been adopted in a range of contexts, and has a different meaning in each context. Mulgan describes accountability as 'chameleon like', but has teased apart four interpretations of the term (Mulgan 2000);

1. Accountability has become synonymous with the traditional use of the term 'responsibility' to describe the "individual responsibility and concern for the public interest expected from public servants".

2. Accountability is a form of control which is used by democracies to control government action. Many institutions can drive these accountability changes such as courts, statutory authorities and regulatory boards using procedures such as judicial review and public service codes. There is a range of factors that constrain governments in a democratic society, including competitive markets, mass media and interest groups.
3. Accountability is used to reflect the extent to which governments are responsive to the needs or wishes of its citizens.
4. Accountability represents the dialogue that occurs between citizens that forms the basis of democracies.

These different interpretations of the same word highlight the complexity of the modern notion of accountability. The range of applications of accountability in practice further complicates the term. There are a range of accountability relationships and within these, a number of factors, or domains, for which different parties can be held accountable. Accountability relationships can be formal or informal. They can be based on implicit or explicit agreements between parties, and can use different technologies to make the agreements, commonly contracts (Mackintosh 2000). Contracts between stakeholders can specify the volume and types of care delivered, the time frame in which the care should be provided, the price and the quality of care. The procedures used to determine whether parties are adhering to their contracted behaviours vary, and include audit, publishing of league tables and complaints mechanisms. The stakeholders in the accountability relationships and may include consumers practitioners, managers and public servants, each of whom have different information requirements.

Kazandjian defines accountability in the context of its current application in health settings;

Accountability is the extent of liability ascertained through an evaluation of the goodness of a performance by a party in response to the requests of another (other) party(ies) based on some type of agreement between all involved. Accountability also incorporates the requirement that the performers do accurately, completely and continuously educate the beneficiaries about the reasonable expectations they should have regarding the goodness of the outcome (Kazandjian 2002:206).

This definition acknowledges that both the provider and the beneficiary in an accountability relationship require some knowledge, understanding and expectation of the outcomes of the process or service.

The growth of new approaches to accountability have been fuelled by a number of factors, including cost containment, or the need for 'value for money' (Wennberg 1990), the growth of the consumer movement (Hurst 1996) an increasing awareness of the potential for errors in medicine (Leape, Brennan et al. 1991) and the growth of a management driven culture (Armstrong 2002).

Local and international studies have demonstrated large variations in health care expenditure without corresponding differences in health status (Wennberg and Gittelsohn 1982; Relman 1988; Gerszten 1998; Emerson 1999). The recognition of these disparities has forced some providers to become accountable both for the costs of health care and variations from accepted best practice. Other management strategies that have led to accountability on the basis of health care costs include health maintenance organisations, Diagnosis Related Groups, purchaser – provider separation which use contracts to specify a price for set outputs and systems of budget holding and capitation in the UK (ACT Department of Health and Community Care 2000; Bloom 2000).

The consumer movement started in the 1970s when Ivan Illich's book the *Medical Nemesis* created doubt about of medicine's credibility by pointing to the high rates of medically induced illness (Illich 1976). The increasingly articulate voice of consumers and dissatisfied patients resulted in the formation of consumer groups, formalised consumer consultation mechanisms and litigation against health practitioners (Gladstone 1993; ACTCOSS 1999; Bethell 1999). The result of these changes was the recognition of the need for more formal systems of accountability of providers for the safe and effective delivery of care to their patients. In the United States, consumers who are forced to make choices about health care plans are demanding open access to more transparent mechanisms of accountability, such as health service quality indicators (Bethell 1999). Some of the current influences of the consumer movement are the focus on patient centred care (Hurst 1996), and user involvement in health service development and delivery (Stewart 2001). The result is that consumers become an increasingly important stakeholder in accountability models. They are consulted about how health services should be developed and become partners in the delivery of health care (Delbanco, Berwick et al. 2001).

There are a number of accountability models (Dwivedi and Jabbra 1989; Sinclair 1995; Emanuel and Emanuel 1996). Accountability can be defined in terms of the stakeholders (locus of accountability), the domains for which they can be held accountable, and the procedures through which adherence to the systems can be determined (Emanuel and Emanuel 1996). Emanuel and Emanuel list six domains of accountability in health care; professional competence, legal and ethical conduct,

financial performance, adequacy of resources, public health promotion, and community benefit. However, these domains will be shaped by the values that underpin the health care system so may vary according to the service type and the political and cultural norms shaping health care delivery. For instance, the growth of consumerism in health care and focus on patient centred care may see the addition of a new domain of consumer consultation or satisfaction. In addition Emanuel and Emanuel describe three dominant models of accountability in health care; the professional, economic and political models.

Professional accountability, is the accountability between the patient and provider and between the provider and their profession. It has been well documented in the literature and forms the traditional basis for most health service provider accountability (Emanuel and Emanuel 1996; Sharpe 2000). Within this model, the health service provider's action is directed towards the patient's health or well-being.

In the *economic model*, patients are viewed as consumers. Doctors, allied health services, hospitals and health services are seen as providers or economic producers that are accountable to purchasers. In the economic model, the primary domains of accountability are financial performance and professional competence. In the purchaser-provider model, the contract is the main procedure of economic accountability (Bloom 2000).

The *political model* involves the interaction of patients and health care providers as "citizen members". The health care community determines the domains of accountability in the political model. Political accountability, or the notion of including consumers in decision making processes and on management boards, has received a great deal of attention recently (Cleary and Edgman Levitan 1997; Williamson 2000).

To reduce accountability interactions to the three models described above is somewhat simplistic, however forms a useful classification of different levels of accountability in the health sector. As the remainder of this section will show, there are a number of components of each of the approaches to accountability which are subject to different interpretations and applications.

2.3.2 The evolution of the current concept of accountability

This section explores three important factors that have influenced health service accountability in its current form; the professionalisation of medicine, the scientific validation of medicine, and new-managerialism. Whilst the first two movements pre-date new-managerialism, they have shaped the values of the health care delivery system, thus they have been incorporated by managers into the new accountability

frameworks. However, as new-managerialism is the dominant setting for much of the accountability literature, I will start this discussion by describing new-managerialism.

2.3.2.1 New-managerialism

Shore and Wright argue that the meaning of the terms accountability, professionalism and quality have been changed through their appropriation by accountants and managers through the introduction of neo-liberal governance (Shore and Wright 2000). The introduction of the principles of neo-liberal governance into management has many terms, including 'new-managerialism' and 'new public management' (Hood 1991). For consistency, I will use the term new-managerialism in this thesis.

Historically, public sector management has been dominated by a clear hierarchical relationship between accountability and responsibility. Each public servant was accountable, through hierarchical structures to their department, which in turn was responsible to the cabinet and then to the people. This model was criticised because it was seen as too rigid and bureaucratic, narrowly focussed, preoccupied with structure and process, undemocratic, insular, and that it took away public choice (Hughes 1994).

In response to the criticisms of traditional management, private sector styles of management have been adopted by the public sector. Replacing the traditional models of accountability which relied on 'top down' control within an official hierarchy (Stone 1995), new public sector management relies upon performance-based management or "accomplishment accountability" (Barrados, Mayne et al. 2000). New-managerialism has resulted in a diminished public sector role, which has become limited primarily to policy making and financing functions and increasingly separated from the delivery of services (Clarke and Newman 1997). In other words, new-managerialism has seen the reworking of budgets to be transparent in accounting terms with costs attributed to quantifiable outputs and outcomes instead of inputs.

Theoretically, public service managers, who have increased accountability for the results and less accountability for the method of achieving the results, can be creative or even "entrepreneurial" in the methods they use to achieve their goals (Kernahan 2000). The values of new-managerialism are reinforced in the Australian Public Service Bill (1999) which highlights the importance of the new professional values of 'achieving results and managing performance'. Accountability is a fundamental part of new-managerialism where contracts have replaced the authoritarian hierarchies as the method of ensuring that actors deliver what the purchaser expects of them (Lane 1985).

The notion of accountability is that those acting on behalf of another person or group, report back to them, or are responsible to them in some way. This is a principal-agent relationship where the agent carries out tasks on behalf of the principals and reports on how they have been performed (Hughes 1994). In new-managerialism, the principle-agent relationship helps define who is responsible to whom, and for what, thus clarifying the accountability relationships and the contractual obligations between parties.

The influence of the new management styles is the introduction of systems designed to promote managerial efficiency and accountability in professional practice with increasing surveillance of activity, assessment of spending and measures of outcome (Gladstone 1993). Armstrong argues that management is a generic process which is removed from expertise in any particular process (Armstrong 2002:282). In other words, managers can take management theory and apply it within any setting. However, in order for them to be able to apply their generic skills, the procedures within the organisation need to be constructed in a way that managers find "comprehensible and amenable to purposive intervention" (Armstrong 2002:282). Thus the new management systems require that the components of systems and organisations can be defined, monitored and, ideally, manipulated in a way that will help achieve management goals.

Audit is one of the key procedures of accountability within new-managerialism (Power 1997). Audit is a 'portable management tool' in which 'environments are rendered accountable, structured to conform to the need to be monitored ex-post' (Power 1994:8). Audit requires that the components of the organization be broken down into a series of definable tasks that can be monitored. By doing this, audit actually comes to define the roles and relationships between the public, purchasers and professionals as well as create and define the problems that require solving (Power 1994). Whilst audit is an important tool of new-managerialism, it is not isolated to this movement. Audit reflects a wider requirement for openness and a response to consumerism (Jary 2002). The importance of audit as a management tool is reflected in the growth of 'performance indicators', 'mission statements', 'clinical practice guidelines', 'targets' and 'league tables' (Jary 2002). Audit does not generally examine the primary activities involved in delivering a service, but focuses on the systems of control, or the 'policing of policing' (Power 1994).

However, the adoption of audit style accountabilities in the health sphere presents some difficulties. Where, say, in the manufacturing sector, the processes and outputs of production can be clearly defined in terms of mechanised actions and countable products, the processes and outputs of health care are less easily definable (Van

Peursem, Pratt et al. 1999). If measures are used as management tools, then they need to reflect the quality of management, however in health care, the quality of management and the quality of health care practice are not always synonymous (Van Peursem, Pratt et al. 1999). As Donabedian points out, the indicators and outputs that are favoured by managers do not necessarily reflect the quality of the service (Donabedian 1966:27).

An important component of this discussion is the way that audit procedures have come to be defined in the health sphere, which has, in part, arisen from the models of professionalism and the scientific paradigm of health care, which will be expanded on under the following two headings. Essentially, current forms of audit and management are based on the privileging of objective, measurable indicators of outcome (Kazandjian, Lawthers et al. 1993). These indicators have, in part, been defined by the prevailing paradigms in health care, which are the dominance of the medical profession, and the drive for scientific validation of health care. One influence of this is an accountability framework which privileges scientific / objective knowledge over subjective input or narrative. These influences are described in the subsequent sections.

2.3.2.2 The professionalisation of medicine

The notion of the professionalisation of medicine is important in this context for two reasons; first, because professionalism is defined, in part, by systems of accountability and autonomy; secondly, because the professionalisation of medicine has had an important influence on the shape of the Anglo-American system of health care.

Professional accountability has been described as "a system marked by deference to expertise where reliance must be made on the technical knowledge of experts and where close control from outside the organization is inappropriate" (Romzek and Dubnick 1987 cited in (Mulgan 2000)).

The classical sociological definition of professionalism has three features. The first is a clear definition of the elements of work over which the individual has autonomy or control. The second is legislative recognition of the profession by the state, protecting the profession from encroachment by another profession. Thirdly, professionals have ownership over an exclusive body of knowledge and skills and a code of ethics that protects their legitimacy (Friedson 1974). Professional groups further distinguish themselves through their own regulatory autonomy through systems of professional accreditation and often have control over their relationship with the service recipient (Kritzer 1999).

Buchanan has described the “social bargain” of professionalism in which society grants special privileges such as significant powers of autonomy, in the form of self-regulation and social status, in return for the necessary benefit of medical services (Buchanan 1996). The privileged position bestowed to the medical profession gave them the ability to define their own systems of accountability, which have, until recently, been implicit and lacked external transparency.

The ability of professionals to control their work, and in the case of medicine to control, or at least monitor the work of other disciplines has created the systems of health care accountability that have predominated over the past century (Larkin 1983; Montana Medical Association 2002). These have largely been implicit, informal systems of accountability that have served to protect the boundaries and reputation of the professional group rather than the public. For instance, in the early nineteenth century, the American Medical Association promoted discretion and silence with regard to the practice of colleagues, which was poorly suited to producing a systematic understanding of therapeutic safety or effectiveness, as later research demonstrated (Liberati, Apolone et al. 1991).

However, the autonomy of professions has come under threat over recent years. The terms deprofessionalisation and proletarianisation are commonly used. Haug described the concept of deprofessionalisation as “a loss of professional occupations of their unique qualities, particularly their monopoly over knowledge, public belief in their service ethos and expectations of work autonomy and authority over clients” (Haug 1973). Proletarianisation has been described as “a theory that predicts the decline of medical power as a result of deskilling and the salaried employment of medical practitioners (McKinlay and Stoekle 1988). However both of these concepts are criticized on the basis that they are too general and miss the multidimensional nature of professional autonomy (Rosenthal 2002).

More recently, there has been an awareness of the influence of new-managerialism on professional autonomy (Hunter 1996; Borthwick 2000; Dent and Whitehead 2002). The implications of the changes are not entirely clear, and appear to vary across disciplines and health systems (Rosenthal 2002). There is an argument that ‘performativity’ is replacing professional autonomy (Dent and Whitehead 2002). That is, the privileging of objective forms of knowledge over subjective, which makes professionals accountable on the basis of objective, measurable indicators of effectiveness, rather than previously utilised, subjective indicators. Dent argues that the adoption of these control techniques by managers will actually promote ‘empiricism and technology’ which will undermine some professions whilst supporting others (Dent and Whitehead 2002).

Broadbent and Laughlan reinforce the notion of the privileging of empiricism and technology by arguing that new-managerialism relies on the application of accounting techniques to the actions of professionals to reduce the “indetermination and technicality ratio”. This refers to the parts of a role that can be defined and communicated by a set of rules as opposed to the parts that cannot be clearly defined by a set of rules (Broadbent and Laughlin 1998). The authors claim that increasing the importance of the roles that can be defined by rules or expanding the technical definitions of the tasks being performed achieves this.

An examination of the impact of performance indicators on general practitioner autonomy in the UK reinforces the notion that new-managerialism judges professionals against explicit measures and that professionalism is no longer assumed (Exworthy, Wilkinson et al. In press). Interestingly, the GPs in this study criticized the performance indicators on the basis that they were 'not scientific', even though scientific credibility is promoted as the basis for introducing many of these changes in the health sphere.

The growth of podiatric surgery in the UK illustrates how new-managerialism can extend the scope of practice of non-medical practitioners, whilst reducing the dominance of medicine over the practice of other disciplines (Borthwick 2000). The introduction of new systems of accountability enabled podiatric surgeons to use evidence of cost-effectiveness and audit practice as a mechanism to compete with orthopaedic surgeons. Podiatrists were able to demonstrate shorter waiting times for foot surgery, which gained favour with the Department of Health by demonstrating increased accessibility to care. Budget conscious fund holding GPs were found to be more likely to use podiatric surgeons than orthopaedic surgeons to undertake forefoot surgery. The Royal College of Surgeons (RCS) and the British Orthopaedic Association expressed opposition to the growth of podiatrists on the basis of their use of 'surgeon' in their title and RCS's belief that they 'governed' surgery. Borthwick describes this as a clear "challenge to the monopoly in foot surgery", previously owned by orthopaedics.

The implications of new-managerialism on professionalism are difficult to predict, and likely to influence a range of areas of the health workforce. In Australia and the UK, there have been recent changes to the systems of regulation that make the concepts of professionalism more explicit. The principles of regulation in health include ensuring clarity regarding standards, maintenance of public confidence, transparency and fairness of procedures, responsiveness to and protection of the public (Department of Health 2000).

The regulatory systems in most Australian states and territories have undergone review over recent years. As health care regulation is undertaken at state / territory level, it is difficult to ascertain a clear picture of the regulatory protocols adopted by each discipline across the country. A summary of the allied health regulatory requirements is provided in Appendix A.

A number of allied health associations in Australia have introduced voluntary accreditation systems (Appendix A) (Nancarrow and Clark In press). Clinicians undertake a range of activities, and in some cases, pay for the privilege of being certified an accredited practitioner (or certified practice in the case of physiotherapy). They currently do not achieve any increased financial benefits, nor is the accreditation status recognised by any purchasing authorities. The domains and procedures used to determine professional accreditation vary across the disciplines, and consumers values are not incorporated in the establishment of any of the accreditation programmes (Nancarrow and Clark In press).

In the United Kingdom, mechanisms have been recently introduced in both health and social care to help maintain standards and therefore the quality of services. These changes arose, in part, from the recommendations from the Report of the Bristol Royal Infirmary Inquiry (the Kennedy Report) (Department of Health 2000). Whilst the Kennedy Report had the most direct effect on the General Medical Council, the medical regulatory body, the same regulatory principles have been applied to other professional bodies involved in the delivery of patient care.

The NHS Plan included a proposal for the formation of a UK Council of Health Regulators (Department of Health 2000). As a consequence a number of regulatory bodies in health commenced their work on April 1st 2002. These include the Health Professions Council (HPC), Nursing and Midwifery Council (NMC), the General Medical Council (GMC), General Dental Council, General Optical Council, Royal Pharmaceutical Society, General Chiropractic Council and the General Osteopathic Council (Department of Health 2000). The GMC, NMC and HPC have reviewed their regulatory frameworks to include regular revalidation of health service providers' fitness to practice and ongoing continuing professional education (Department of Health 2000; Irvine 2001).

The introduction of new management structures have created an environment in which formerly accepted 'rituals' such as professional practice are now teased apart into a series of definable, quantifiable and externally verifiable components. It is the monitoring of these components that form the new basis of health service accountability. The professions appear to be voluntarily adopting many of new accountability standards, as the growth of professionally derived systems of

accreditation illustrate. However, the impact of these systems on professional autonomy is a replacement of the traditional notion of trust with explicit indicators of performance. As section 2.4 demonstrates, health outcomes are seen as the ultimate indicator of performance and effectiveness, despite the lack of clear examples of their application in the health care setting.

2.3.2.3 The growth of scientific medicine

The focus on safety and quality in health care started in the early twentieth century and coincided with the growth of medical technologies, such as anaesthetics and antibiotics. Sharpe has termed this the ‘era of scientific medicine’. This period heralded an acknowledgement that clinicians needed to “demonstrate that their practices were compatible with the rigorous medical science they both espoused and relied on for prestige” (Sharpe 2000:33). The growing body of scientific knowledge led to more rigorous forms of evaluation, such as the randomised controlled trial (RCT) and the introduction of the notion of quality in health care which was first proposed by Ernest Codman in 1916 (Codman 1916).

Miller and Crabtree describe the typifying features of the biomedical model (Miller and Crabtree 2000);

1. Scientific rationality;
2. Emphasises individual autonomy as opposed to family and community;
3. Focus on the body is a machine which is defined by physicochemical data and objective, numeric measurement;
4. Mind/ body separation;
5. Diseases as definable entities;
6. The patient as an object and alienated from the physician;
7. Emphasises visual cues;
8. Diagnosis and treatment are made from the outside;
9. Reductionism and the seeing of universals.

These features underpin the basis of many of the health outcome measures that are available, but also reinforce the systems that have been adapted by managers in the aim to reduce the impact of treatment to a numerically definable result of care.

The biomedical model has created a perception that health care interventions should be definable, reproducible, able to be scientifically validated and lead to a clear outcome if performed under the right circumstances. For instance, over recent years,

there have been a number of attempts to systematically manage, and incorporate the body of scientific evidence into practice. Cochrane proposed that the evidence arising from RCTs should be identified, evaluated and summarised in a systematic way, leading to the use of systematic review and meta-analysis of published (and some unpublished) data and the development of the Cochrane Library in 1993 (Cochrane 1989).

The implementation of 'best practice' care has been reinforced through the introduction of clinical practice guidelines (Haines and Hurwitz 1992; Grimshaw and Russell 1993; Grimshaw and Russell 1994; Grimshaw and Hutchinson 1995). Clinical guidelines are defined as systematically developed statements designed to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances in (Grimshaw and Hutchinson 1995). The Australian National Health and Medical Research Council has introduced a range of clinical practice guidelines to help overcome "unjustifiable variations in clinical practice for the same condition" (NHMRC 1999). The perceived benefit of clinical guidelines is their potential to reduce professional uncertainty, and hence inappropriate variation in practice. This will, in turn enhance health care rationing through better direction of resources (Grimshaw and Hutchinson 1995). A range of mechanisms have been developed that are designed to facilitate the application of clinical guidelines, such as 'clinical pathways' and 'standardised care plans'. These models are based on the assumption that a provider will adhere to the documented processes of care and only record deviations or 'variances' from these processes (Blau 1997; Chou and Boldy 1999; Smith and Gow 1999). The critics of evidence based medicine and clinical guidelines claim that they represent a 'cookbook approach' to medicine (Woolf 1993) and a threat to professional autonomy (Hill 2000).

The growth of the scientific validation of medicine has provided managers with a framework against which clinicians can be held accountable and performance managed. Individuals and organizations can be held accountable on the basis of published league tables. Good practice is based on replicable, objective approaches to care that are based on the best evidence available. Clinician files are audited for rates of adherence to the 'rules' governing their practice. Guidelines are given to prescribe the way that care is delivered and the onus is on the clinician to demonstrate that they have adhered to these guidelines.

Professionalism has moved from an exclusive domain of a privileged few that was defined by autonomy and internal, implicit mechanisms of accountability to a management led model that measures accountability against an externally defined set of performance indicators. Many professional groups condone this approach, as

illustrated by the voluntary adoption of professional accreditation systems and the endorsement of organisational quality standards (Nancarrow and Clark In press).

2.3.3 International applications of the new systems of accountability

The new systems of accountability have been introduced in many health systems, including Australia, New Zealand, the United States and the United Kingdom, despite different approaches to organising and financing health care in each country.

The United Kingdom

The United Kingdom was the first European nation to adopt the private sector approach to the publicly funded National Health Service (Griffiths and Hughes 2000). These changes were mandated in the National Health Service and Community Care Act, 1990 and included the separation of the NHS into purchaser and provider roles. The ‘purchasers’, health authorities and fundholding GPs, had the power to purchase services from NHS Trusts. The competing NHS Trust hospitals secured funding by entering into contracts with purchasers. The NHS Trust hospitals were divided into cost centres called clinical directorates in which clinicians were required to work alongside managers to deliver care within agreed budgets. This arrangement, as well as the employment of doctors directly by the NHS trusts, rather than the health authorities created a new level of governance of the health service which extended to the micro-management of the health service by the government, rather than simply the allocation of resources.

The Patient Charter (which has recently been superseded by ‘Your Guide to the NHS’) was an important outcome of this model of management (Griffiths and Hughes 2000). The Patient Charter specified a number of quality targets, such as waiting times for patients. Trusts that did not achieve the targets, or that failed to supply the information about quality were subjected to financial penalties.

The new accountability systems extended to the management of clinicians who were required to negotiate with managers to ensure that they could meet the contractual requirements. Contracts specified the quantity, quality and the cost of the services to be delivered, which, in many cases, only the clinicians had the knowledge to provide this information. This, in turn, led to the growth of ‘evidence-based purchasing’ which was linked to the NHS Research and Development Initiative which emphasises effectiveness and measurable outcomes.

Clinical governance was introduced in the UK as a quality and accountability mechanism designed to improve current and future care delivery (Department of Health 1998). A number of accountability procedures are incorporated under the clinical governance umbrella, including the introduction of personal learning plans,

complaint analysis, significant event analysis, benchmarking and sharing best practice (Campbell, Sheaff et al. 2002). Health trusts have incorporated different approaches to clinical governance. Managers of primary care trusts who were interviewed about the introduction of clinical governance raised important issues around the implementation of new mechanisms of accountability. It involved 'getting the culture right'; the introduction of sustainable infrastructure in terms of organisational values as well as information technology; and avoiding a culture of blame (Campbell, Sheaff et al. 2002). Managers perceived that there was a lack of clarity about the role of quality systems in the implementation of clinical governance. The same managers identified barriers to the implementation of the clinical governance which included a lack of support by practice staff, lack of financial and technological resources to implement the approach and too rapid a pace of change.

Broadbent has traced the impact of the new management styles accountability on GP practice in the UK in the early 1990s (Broadbent and Laughlin 1998). The authors identify three different approaches to the delivery of care which have been directed by contractual outputs. Prior to 1990, general practice was illness based with a curative emphasis and per-capita financing. Accountability was to the patients and the profession. In 1990, as a result of the introduction of the National Health Service and Community Care Act, 1990, contractual arrangements specified a shift to disease prevention and health promotion. Per capita financing was linked to contractual requirements, such as home visits to the over 75's and consultations that were aimed at reducing the risk of illness. Direct financing was provided for achieving targets for childhood immunisation and conducting child surveillance. Accountability was made more explicit to the professions through medical audit, and to the purchaser, through contractual fulfilment. After 1993, the contracts were revised to change the emphasis on health promotion and increase the importance of population health data collection. The labour government changed these systems of accountability yet again with the introduction of clinical governance. These changes illustrate the power of contracts to influence the emphasis of the delivery of health care and control the levels of information being fed from the purchaser to the provider.

Under proposals in the *New NHS Modern, Dependable* and subsequently, the *NHS Plan*, the performance of NHS organizations is ranked in league tables which draw on performance indicators and key target areas (Department of Health 1997; Department of Health 2000). The value of the indicators are being debated on the basis of their robustness, their ability to detect significant differences between organizations, the weightings given to various performance preferences the level to which they reflect 'good practice' (Brown 2002; Klein 2002).

Flynn and colleagues examined the impact of new-managerialism on community health services in the NHS through case studies of three NHS community health services in England (Flynn, Williams et al. 1996). Their study highlights a number of difficulties with the approach in this setting. Firstly, they identify the problem clearly defining community health services, however categorise them as formal health services that are not provided by a GP or in a hospital. In addition, they are seen as 'network' organisations which are involved in continuous negotiation with a range of different agencies, providers and voluntary organisations.

Flynn et al highlight some of the common criticisms of the application of 'quasi markets' to health service management, including market failure, and the question of whether purchasers have the skills to effectively act as agents for consumers. Market failure describes the imbalance of knowledge between the purchasers of care and the providers of that care; where there are barriers to the introduction of new suppliers; and where evidence of outcomes is unreliable. However, their analysis of three case studies of community health services in the English NHS identified further barriers to the approach.

Purchasers and providers perceived that new-managerialism was more difficult to apply to community health services than acute services because of differences in the nature of service delivery. For instance, community health services focus on 'care rather than cure', are more continuous and the end-point of care delivery is less easily identified. In contrast, the model fits more neatly bounded services such as surgery which have a more clearly defined intervention and outcome.

“Contracts between organisations will be attractive to the extent that the good or service is amenable to unambiguous written specification; joint gains from collective action are potentially available; implementation does not create costly haggling; monitoring agreements is not costly; and penalties for non-compliance can be enforced at low cost” (Flynn, Williams et al. 1996).

The introduction of new-managerialism and the resultant focus on contracts as a way of procuring income changed the roles, responsibilities and relationships of all the stakeholders involved in care delivery. Providers required new skills in business planning and marketing strategies in order to address the new contractual requirements of their services. The changed relationships between the purchaser and the providers required major changes in organisational and professional culture.

The concept of competition that is implicit in new-managerialism was a problem for community health services. The very nature of community health care means that services need to be located within their community. Inefficiencies were likely to arise from the duplication of services in a single area in order to increase competition. In

contrast, the acute sector lends itself more to competition because of the ability of purchasers to choose from services that are provided in a distinct location, but more likely to be replicated.

The use of contracts as a basis for service purchasing brought with it a new set of prerequisites: the services need to be defined; the quantity and price of the services had to be agreed; the quality of services had to be determined; and the conditions under which either party could withdraw from the contract had to be made explicit. These issues presented a number of barriers within the community health setting. As previously stated, there were difficulties clearly defining and coding community health services. The definitional issues were confounded by the wide range of procedures available, the variety of providers employed in the community setting, the heterogeneous nature of the service users and the difficulty defining a community 'contact'. As a result, purchasers tended to focus on activity data, even though it was acknowledged by both purchasers and providers that this was a poor indicator of what actually takes place in health service delivery.

The identification of outcomes was linked with the ability to address population needs with health services, leading to the widespread introduction of health needs assessments. However, there were difficulties determining how to link needs with services and then to demonstrate the outcomes of those services. Additionally, it was unclear whose role it was to undertake the health needs assessment. The providers felt that they had access to more appropriate information about health needs due to their hands on role, however the purchasers were resourced to examine population need. One case study site demonstrated the conflict that arises when funding is linked with resources, needs and outcomes: when issues arose about which services to prioritise, they questioned whether to invest in services based on population need, or those that provide an income to the service area.

The lack of comparative data in the community setting created difficulties in the development of contract information. In contrast, the acute sector had been collecting information for a number of years about their services that could be used in contract development.

Service costing was also difficult to determine. Flynn et al define five dimensions that can be included in cost data: settings (location of care delivery); condition (patient's condition); activity (type of care or procedure); clients (who is being cared for) and care input (who is delivering the care). The only information that was routinely available in community health services was information about care input, resulting in large variations in costs across services, whilst providing little information about the actual services provided.

There were also problems measuring the quality of care. Two elements of care quality were considered important: the specification of the services required, and the impact of services on patient care, or outcomes. This led to two difficulties in the purchasing process. Firstly, it was unclear how to incorporate health care quality into contracts. Secondly, services were unsure how to measure or demonstrate the outcomes of care.

The measurement of outcomes was highlighted as a difficulty in all three community health services examined by Flynn et al. The purchaser and providers believed that it should be possible to introduce health outcomes into community health services, however only a few examples had been introduced during the study period. Interestingly, all the organisations were optimistic about the possibility to identify appropriate outcome measures in community health services (such as wound healing rates and length of treatment times), although two acknowledged that they did not have sufficient resources to develop the measures required. The result was the continued reporting on process data, rather than outcomes.

The introduction of new-managerialism itself created excessive demands for information which were difficult to meet due to limited information technology resources, and difficulties defining the components of the information (such as outcomes, services, and contacts). There was debate around who should have access to particular information. For instance, the provider questioned whether the purchaser should have information about resource use, or just activity levels and costs. There was a perception by one case study site that a focus on outcomes in purchasing contracts would inappropriately increase the transparency about all levels of service input that was provided to the purchaser, rather than simply reporting on outputs or throughput.

The problems with the introduction of new-managerialism in the community health sector appear to be dominated by the difficulty defining what the community sector does, who the services are for, and how to measure the outcomes of the care, or as Flynn summarises: these are problems of 'conceptualisation, information and location' (p32). All three case studies highlight the difficulties monitoring quality as a purchasing tool, focussing on activity and expenditure instead.

The UK system has undergone a number of changes subsequent to the election of the Labour Government in 1997 which still includes the separation of purchaser and provider. However a more collaborative approach to health care delivery has been introduced through pooled budgets and Joint Investment Plans which are based on 'service agreements' rather than purchasing of clinical services (Department of Health 2000; Department of Health 2002).

The United States

The new management techniques have been applied to health care in the United States since the mid 1980's. The Health Care Financing Administration introduced the notion of institutional 'report cards' in 1987 in response to mortality rates of Medicare patients (Wakefield, Hendryx et al. 1996). Report cards have now been adopted by the managed care sector as a way of providing comparative information about the costs and quality of care to the service users (McGillis Hall 2002). Report cards can be mandatory, or be provider initiated.

Provider initiated report cards are seen as a mechanism of public accountability by the health care providing organisations (Kohn, Corrigan et al. 2000). Two types of report cards have emerged; the consumer report card, which is designed to inform the public; and the balanced scorecard, which is aimed at measuring organisational performance and allows benchmarking between organisations (Kaplan and Norton 1993). Balanced scorecards examine performance from four perspectives; the customer, internal, innovation and learning, and financial. Variations on these four themes have been adopted in the Canadian health setting, and in other services (Baker and Pink 1995).

The use of report cards has both highlighted a number of barriers to performance measurement, and has itself come under criticism. The use of report cards has led to the realisation that "disclosure of performance is often based only remotely on unknown relationships between processes and outcomes" (Kazandjian 2002:207). Research has shown that report cards are of more interest to health care organisations than consumers (Bently and Nash 1998). Further, there is evidence of a lack of standardisation of and consensus on report card indicators (Slovensky, Fottler et al. 1998; McGillis Hall 2002). Much of the published literature on report cards describes their use in the acute care setting, thus the indicators employed tend to reflect an acute and medically dominated approach (Gandhi, Francis et al. 2002; McGillis Hall 2002). One study that attempted to apply the report card model in an ambulatory setting found a lack of correlation between the variables of performance that were measured (Gandhi, Francis et al. 2002). A study which examined the use of report cards in the management of diabetes (as a prevalent primary care condition) found that they were unable to detect differences between doctors and questioned the relevance of these indicators for reflecting what was actually done (Hofer, Hayward et al. 1999).

Australia

In Australia, the health sector has adopted the principles of new-managerialism in different ways at the state and national levels. Nationally, the changes to the systems

of hospital funding reflect the rapidly shifting values of the health service, and the perception that changes to the funding mechanisms can be used as a tool for health care reform. The Australian Health Care Agreements (AHCA) superseded the Medicare Agreements in 1998, establishing a range of indicators against which the States and Territories are accountable for the provision of public hospital care (Department of Health and Aged Care 2001). The replacement of the Medicare Agreements was designed to remove perceived barriers to the provision of care and reduce the incentives for cost-shifting between the Commonwealth and States and Territories (Magarry 1999). Performance indicators include hospital activity levels and costs; waiting times and service accessibility; Aboriginal and Torres Strait Islander Health; the integration of care processes; primary care access; quality; medical training and research; mental health and palliative care (Department of Health and Aged Care 2001). The AHCA acknowledge the need to develop appropriate performance indicators on efficiency, quality, appropriateness, accessibility and equity of health services and has prioritised the development of improved information technology infrastructure within the health system (Department of Health and Aged Care 2001).

The AHCA has been attacked on the basis that it is still an approach to funding rather than an instrument to implement health policy and that it does not incorporate primary care (Reid 2002). A recent meeting of the Australian Health Ministers Council highlighted the importance of the continuity of care and interface between different sectors of care which may be incorporated into the 2003 - 2008 AHCA objectives (Reid 2002).

At the state and territory level, new-managerialism has been adopted through the disaggregation of public sector bureaucracies into separate purchasing and providing organisations (Bloom 2000). Two different models of purchaser provider separation have emerged. New South Wales and Queensland have adopted a model of integrated, regional health care through a centralised purchaser and provider, whereas, for example, Victoria, South Australia and the ACT have adopted the more market oriented, output based funding through separation of the purchaser and provider roles (Bloom 2000). The effect of these reforms have been the establishments of contractual agreements between the purchasers and the providers (Bloom 2000:142), commonly termed the 'purchaser – provider' model. The result of the purchaser-provider model is the establishment of contractual interfaces between a number of stakeholders, such as parliament and the executive; political and bureaucratic purchasers and public or private providers (Stewart 1999).

Purchaser – provider separation is designed to optimise efficiency by ensuring that all actions and information are explicit and that parties can be held accountable for their actions. Purchaser - provider separation enables the purchaser to obtain more accurate information about the costs of services by subjecting providers to competition, by benchmarking providers against each other, and by forcing providers to specify the exact nature of the goods and services they will provide at a specified price (Stewart 1999). The impact of NPM on health service provision is the privileging of scientific / objective knowledge over narrative or subjective knowledge. The systems that have been established to ensure accountability within health services under NPM reinforce these models.

Despite the fact that management style accountability techniques have been used in the health sector for nearly 20 years in many countries, it appears that accountability technology is still in its infancy. The shifting applications of accountability models reinforce Mulgan's chameleon-like metaphor. The more managers and clinicians try to define and unpack the components of health service delivery, the more complex these components become. Additionally, the changing values of health care delivery need to be incorporated into a constantly shifting set of indicators of effectiveness. There is increasing recognition that the measurable, auditable items are not always a good reflection of how well care was delivered or the outcomes of that care, nor do they necessarily reflect the values or requirements of the stakeholders (Kazandjian 1995). In many cases, the new accountability approaches have been developed within the acute care sector, with an assumption that the same approaches should be applicable in the community or ambulatory setting. However as the UK and US examples illustrate there is increasing evidence that the 'non-hospital' setting does not lend itself to the same technologies of accountability as the acute sector.

2.3.4 Summary

Accountability is an increasingly important, and growing area of health service management. Cost containment, consumer demands and the acceptance of the neo-liberal values of self-regulation have shaped our society into one that actively condones, and even demands transparency of operation in health care and other areas of management. The increasing need to exhibit these values has led health service purchaser, funders, managers and providers to search for indicators that will ideally serve the dual purposes of demonstrating health service effectiveness whilst providing a basis for health resource allocation (Ellwood 1988). In some cases, these 'indicators' have been derived from the values underpinning the scientific validation of medicine and professionalism, however they have been reconstructed in explicit, externally verifiably ways. Formal, explicit systems of professional and contractual

accountability are replacing the traditional models of professional accountability that were accepted in medical care until the second half of last century.

It is apparent that despite the fallibilities of the new systems of accountability, they are a powerful tool in the way that they are used to control the health system. They have the power to challenge existing professional boundaries; to form a basis of resource allocation; provide external verification of health service effectiveness and the accountability of individual practitioners.

Health outcomes have been adopted as a mechanism to address accountability requirements in some settings. The following section examines the reasons that health outcomes appear to be a logical solution to the question of health service accountability.

2.4 Health outcomes

The use of the term 'health outcomes' has increased exponentially since the early 1980s as a result of their broad range of applications in a number of fields of health and health services research. 'Health outcomes' have evolved to encompass almost every aspect of health or byproduct of the health service delivery process, from quality of life to mortality, health service utilisation and hospital readmission rates (Milne and Clarke 1990). The most commonly used definition in Australia is the Sunshine Statement of the Australian Health Ministers Advisory Committee (AHMAC, 1993) which defines a health outcome broadly as

A health outcome is a change in the health of an individual, or a group of people or population, which is wholly or partially attributable to an intervention or series of interventions. (AHMAC February 1993, Modified NHIMG 1996, (AIHW and Commonwealth Dept Health and Aged Care 1996).)

Other definitions of health outcomes are similar to the AHMAC definition with two notable exceptions. Best defines health outcomes from the perspective individuals to include "how comfortable, how accessible and how appropriate" the care is, highlighting the role of the non-health aspects of care in achieving an outcome as well as the importance of including all stakeholder perspectives in health outcomes measurement (Best 1988). McCallum proposes that health outcomes are not necessarily dependent on an intervention and that a change in health status can arise from an intervention or "lack of intervention, on the natural history of a condition" (McCallum 1993).

The 'health outcomes movement' is described as the "science of measuring outcomes and integrating that process into the routine care of patients" (Weeks in (Gerszten 1998). The health outcomes movement has, in itself become an institution which is expected to address a wide range of issues around health service delivery, such as the quality of patient care, the relative effectiveness of different technologies and interventions (Gerszten 1998), the facilitation of economic choices on the basis of sound research (Ellwood 1988), and to help organisations establish benchmarks, negotiate contracts and use health outcomes to market themselves (Walters 2000).

The managed care literature has coined the term 'outcomes management', which is the routine measurement of changes in health status and quality of life resulting from therapeutic interventions (Marcus 2000). In contrast to clinical trials, outcomes management relies on the data collected as part of routine health care delivery, thus is dependent on excellent patient information.

The health outcomes movement has, in turn, created a need for quantifiable measures of health status other than rates of mortality and morbidity. Entire books are dedicated to the discussion of types of health outcome instruments and their development (Bowling 1991; Jenkinson 1994; Jenkinson and McGee 1998). An overview of the types of outcome measures is provided in section 2.4.2.

The growing popularity of health outcomes can be attributed to a number of factors:

- Donabedian emphasised the importance of health outcomes in his systems approach to health service quality, which focuses on health service structures, processes of care and health outcomes (Donabedian 1966).
- In 1981, The World Health Organisation (WHO) published the Global Strategy for Health for All by the Year 2000 (WHO 1981) which resulted in the establishment of a range of health goals and targets in a number of countries including the United States, Europe and Australia (Nutbeam, Wise et al. 1993). In Australia, the focus on improving health outcomes became a mechanism for the allocation of health resources through the Australian Health Goals and Targets. In turn, the states adopted the 'health goals and targets' approach and subsequently pressure has been placed on health service organisations to be accountable for their contribution to health outcomes (Nutbeam, Wise et al. 1993).
- Medical and allied health professions have reinforced the focus on health outcomes by embracing evidence-based medicine to demonstrate the health outcomes of medical interventions.

- The increasing supply of specialist health service providers and technologically driven diagnostic and treatment options have been blamed for creating increased demand for their high cost services without any demonstrated effect on health outcomes (Gerszten 1998). Thus, health outcomes are used as a way of directing health resource allocation.
- Neo-liberal governmentality has resulted in new models of health service management in which contracts form the basis of health service accountability. Contracts, by their nature emphasise the outputs and outcomes of health services rather than processes and inputs. The drive to include 'outcomes' in contracts has, in some instances, been translated into attempts by health service managers and purchasers to use health outcomes.

Each of these examples illustrates a slightly different application of health outcomes. Many disciplines have adopted the term 'health outcomes' for related, but often disparate purposes. The result is that health outcomes are defined by a number of roles within the health sector. For patients and health service providers, health outcomes represent a change in the health status of the patient that can be attributed to an intervention. For purchasers, outcomes are reflected in the contractual obligations that the provider has to fulfill. For economists, they are any by-product of the health system that can be quantified and costed as a basis for resource allocation. For managers, they are the outputs arising from the combination of health system structures and health service processes. For researchers, outcomes are the empirical evidence that an intervention does or does not work.

Despite the diversity of applications of health outcomes, the discourse is not differentiated for different disciplines, implying that health outcomes theory can be applied across disciplinary boundaries. Consequently, the health outcomes literature tends to be diffuse and confusing due to the wide range of contexts in which health outcomes can be used and the variety of stakeholders attempting to apply them. The potential diversity of applications of health outcomes may explain some of their appeal to purchasers, funders, managers and health service providers. The following quote illustrates the perceived, all-encompassing capabilities of health outcomes.

It is clear that health-care allocation decision-makers, third party payers, and patient consumers want to know the effects of treatment and the associated costs. Every practice setting is rich with information that can be used to address these issues. By collecting outcomes data in your practice setting, you have the opportunity to demonstrate benefit and use objective information to formulate cost benefit ratios. (Beck 2000:95)

The same author also claims that health service providers can use outcomes data to guide providers about patient satisfaction, evaluate clinical processes and evaluate various health care technologies. What more could a health service provider, manager or purchaser want from a single measure?

The true motivation behind the drive for health outcomes is difficult to isolate, and could be attributed to any or all of the factors listed above. The following quote by Sax describes the perception that health outcomes are intrinsically linked to health service quality as well as having an 'integrative function'.

End results are sometimes grouped under the five D's – Death, Disease, Disability, Discomfort, and Dissatisfaction... outcome measures have the advantage of face validity as a dimension of quality. They also have an integrative function because the end result represents the net effect of many factors and processes (Sax 1990:120).

The discourse of health service quality incorporates many of the proposed functions of health outcomes and is the banner under which many purchasers and providers appear to have embraced the outcomes approach. The integrative function of outcomes described by Sax captures this. The following section examines the role of health outcomes in health service quality in more depth.

2.4.1 The role of health outcomes in health service quality

The Institute of Medicine defines quality as

the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Schuster, McGlynn et al. 1997:2).

That medical care does not always improve health outcomes, and can, in fact lead to adverse consequences has been acknowledged since at least the days of Hippocrates (Hippocrates 1952). However, it was not until 1912 that L J Henderson stated that this was 'the first year in human history in which the random patient with a random disease consulting a random physician had a better than 50/50 chance of benefiting from the encounter' (Carter 1958:27). Still, in the US, between 3 and 5% of all hospital admissions end in some form of adverse event, or, the death of at least 44 000 people each year (Brennan, Leape et al. 1991). A similar Australian study found that rates of error were around 15% (Wilson, Runciman et al. 1995).

Modern approaches to health care quality are often attributed to Avedis Donabedian. However as early as 1912, Ernest Codman proposed the “end result system” which was based on the

Common sense notion that every hospital should follow every patient it treats, long enough to determine whether or not the treatment has been successful, and then to inquire ‘if not why not?’ (Codman 1984:22).

The central component of the end-result system was the patient record, which he said should include details of the symptoms, diagnosis, treatment and follow-up. Codman also proposed an assessment of the effectiveness of the treatment based on a range of classifications such as error due to lack of technical skill or knowledge, error due to lack of surgical judgement and the patient’s refusal of treatment.

These data were designed to serve an auditing function that could then be used to establish benchmarks for the performance of physicians in hospitals. The system was revolutionary at the time as it focussed on the therapeutic outcomes of care as opposed to costs and throughputs. Codman himself used and published the results of this system, however experienced a great deal of resistance by surgeons in the implementation of the model. This was in part, because surgeons, at that stage, held honorary positions in most hospitals, making medical administrators reluctant to hold them accountable.

The American College of Surgeons considered Codman’s model in 1916, however the approach that was finally adopted in 1918 as the “Minimum Standard for Hospitals” focussed on the structure of health service delivery, omitting both the analysis of health outcomes and the reporting of preventable error (Sharpe 2000).

Codman’s model was possibly the precursor to a recognition of the need for some type of monitoring of the outcomes of care in a clinical setting. The importance of health outcomes was emphasised by Avedis Donabedian in 1966, who wrote that ‘outcomes remain the ultimate validators of the effectiveness and quality of medical care’ (Donabedian 1966). Donabedian is credited with the conceptualisation of outcomes and the introduction of methods to make the concepts usable (Opit 1988). The importance of Donabedian’s approach is first, the inclusion of outcomes within the quality perspective of health care since because “outcome measures have the advantage of face validity as a dimension of quality” (Sax 1990:120). Secondly, Donabedian reconceptualised health outcomes into a systems approach to health care that focuses on the structural characteristics of the service, the processes of care and the outcomes of care (Donabedian 1966). The systems approach underpinned the

future conceptualisation of health outcomes and their subsequent applications in research, policy and management.

The integrative function of health outcomes described by Sax has obvious appeal to the purchasers and funders of health services. It implies that the effects of the processes and structures that constitute the health service can be captured with a single outcome measure or indicator. This provides the benefits of simplicity, a basis for comparison and benchmarking and an indication of how effective the service was, rather than 'how much' of it was provided.

In contrast, Fiona Moss promotes the measurement of processes on the basis that they are easier to measure, they can be determined at the time of the intervention and provide more information about the quality of the care delivered than health outcomes (Moss 1999).

Interestingly, the health outcomes approach has been promoted on the basis that processes and structures have been the traditional focus of evaluation of health care and they have been "selected arbitrarily, without valid linkages to favourable health outcomes" (Weller, Holt et al. 1997:12). Yet, changing the measure so that the focus is on health outcomes measure does not automatically correlate with improvements in the processes or structures. Indeed, the "integrative function" of health outcomes removes the detail of the particular components of health care to focus instead on what was achieved.

Recent studies have shown that health service processes *are* related to health outcomes in some cases. For instance, mortality rates have been found to be lower in patients who undergo revascularization than in those that have coronary angiography, twelve months after receiving the intervention (Schuster, McGlynn et al. 1997). Another study found that better quality consultations, as measured by retrospective file audits, did not significantly influence patient outcomes (van Berkestijn, Kastein et al. 1999). Sometimes, processes that are clearly linked to health outcomes are labeled 'outcome related performance indicators'. Performance indicators are described as

A statistic or other unit of information which reflects, directly or indirectly, the performance of a health or welfare intervention, facility, service or system in maintaining or increasing the wellbeing of its target group (Armstrong 1994:1).

However, as the application of performance indicators in league tables and report cards has indicated, performance indicators do not always reflect performance accurately (Brown 2002; Klein 2002). As the previous section illustrated, the majority of performance indicators have been developed in the acute sector and are of

questionable value in community and allied health services (Flynn, Williams et al. 1996; Gandhi, Francis et al. 2002; McGillis Hall 2002).

The widespread adoption of quality improvement initiatives by health services has seen an expansion of the parameters of quality. For instance, New South Wales Health focuses on six dimensions of quality in health care; safety, effectiveness, consumer participation, efficiency, access and appropriateness (NSW Health 1998). Other authors still cluster these components of care under the Donabedian triad (Schuster, McGlynn et al. 1997). ACT Community Care Clinical Quality Improvement Framework has combined the concepts of quality and clinical governance and identified five headings that form the basis of clinical quality: customer participation, vision / mission / values, continuous clinical quality improvement, results and outcomes focus and learning organisation (ACT Community Care 1999).

Accreditation is one mechanism that has been adopted by organisations and professions to address the issues of continuous quality improvement (Skok, Swerissen et al. 2000). Accreditation systems are designed to incorporate aspects of organisational structures, processes and outcomes. A number of agencies exist in Australia to guide accreditation standards for health services, and some for a much broader range of services (Australia 1994; Australasian Podiatry Council 2000; Australian Physiotherapy Association 2000; Council 2001). Some prominent examples of accrediting organisations include the Australian Council on Healthcare Standards (ACHS 1999). The ACHS has developed a series of clinical indicators for eighteen different conditions or service types, such as anaesthetics, surgery and paediatric pathology. The indicators address a range of clinical issues, including outcomes, such as morbidity from a particular procedure and processes, such as compliance with the criteria for the management of a particular condition. The Royal Australian College of General Practitioners has developed a set of accreditation standards, with approximately 60% of practices registered for accreditation (Australian General Practice Accreditation Limited 2000). Other models include the Quality Improvement Council, which promotes a culture of organisational change, growth and development within the organisation. Home and Community Care (HACC) has developed standards for HACC funded services which have been included in services agreements since 1995. It is proposed that in the future, agency funding will be linked to the HACC standards (Skok, Swerissen et al. 2000).

Individual professional accreditation is gaining acceptance across a range of allied health disciplines (Nancarrow and Clark In press). The systems of accreditation for

each allied health discipline are summarised in Appendix A and will be discussed in more detail in Chapter Six.

The notion of health service quality has grown and evolved in line with the new demands for accountability. The adoption of quality systems by health service providers further reinforces the ideals of transparency and self-monitoring that are valued by our society whilst addressing some of the accountability requirements of consumers, purchasers and funders (Schuster, McGlynn et al. 1997; Strathern 2000).

The Donabedian systems approach of structures, processes and outcomes is still widely accepted, and forms the basis of most quality initiatives used today. Of the three components, health outcomes still have the greatest intuitive appeal to purchasers, managers and providers.

Outcomes measurement has become increasingly popular in the past few years, perhaps because outcomes are the most direct measure of the health of a population. For example, outcomes can be used to assess the quality of care a health system provides its diabetic patients: it can measure whether the system's diabetic patients have foot ulcers, how well its diabetic patients can maintain their regular activities such as walking to the store, and whether they are satisfied with their foot care as well as overall care. (Schuster, McGlynn et al. 1997:5)

Outcomes measurement is dependent on being able to quantify certain domains of a patient's health before and after an intervention is delivered (Weller, Holt et al. 1997). The next section describes the classification and types of instruments that are available to measure health outcomes.

2.4.2 Outcomes measurement

There are a range of suggested classifications for health outcomes (Bowling 1991; Jenkinson 1994; Schuster, McGlynn et al. 1997). Broadly, measures of health outcome can be classified as being subjective or objective. Within each of these categories, either patients or health service providers can define the outcomes of care (Table 2.1). For example, pain is an example of a subjective measure that can only be determined by the patient. In contrast, blood pressure is an objective measure that is normally determined by a health service provider and does not necessarily correlate with the reporting of subjective symptoms by the patient (Barsky, Cleary et al. 1992).

Table 2.1 Classification of health outcomes

	Clinician defined	Patient defined
Objective	Glycosylated haemoglobin A1c Blood pressure Range of motion Five year survival status Tumor size Wound healing rates Electrolyte levels Readmission to service Death	
Subjective	Functional status Mini-mental score	Quality of life Functional status Satisfaction with care Pain

Objective measures of health outcome include traditional indicators such as biochemical, physiological and radiographic measures. Examples of clinical measures include blood pressure and glycosylated haemoglobin A1c to determine the level of diabetes control. Most clinical measures tend to be clinician defined and interpreted, and in many cases (not always), require some form of technology to extract the result.

The recognition that mortality and morbidity are less than optimal outcomes for most health service interventions has led to a search for more appropriate measures of health outcome. For example, the National Health Service in the UK determined that one of the outcomes of primary care interventions should be reduced rates of avoidable hospitalisations for conditions such as asthma, diabetes and epilepsy (Jankowski 1999). Their hypothesis was that if primary care services were effective, then there would be low rates of hospitalisation for these conditions. They actually found that hospital utilisation was more dependent on socio-economic status than any other variable, so the attribution of avoidable hospitalisations to primary care effectiveness was unreliable.

Clinical measures tend to focus on discrete diagnosable problems that are anatomically localised or affect particular organs or systems so, it is hardly surprising that they are generally poor indicators of how the patient actually feels (Barsky, Cleary et al. 1992). For example peptic ulcers are often unrelated to presence of symptoms, asthmatic dyspnoea is poorly correlated to measures of airways obstruction and the symptoms of diabetes are more closely related to depression than to levels of glycaemic control (Barsky, Cleary et al. 1992). Barsky explains this discrepancy by the fact that most patients experience their health as an overall state of well-being or global experience.

Asking the patient how he or she feels using a measure called ‘self-rated health’ has been found to be an accurate predictor of mortality, (Scott, Macera et al. 1997), subsequent hospitalisation (Gold, Franks et al. 1996), and number of physician

contacts (Miilunpalo, Vuori et al. 1997). Self-rated health has been found to be more sensitive than many objective measures at predicting these occurrences (Simons, McCallum et al. 1996).

The health outcomes movement emphasises a shift from traditional, objective outcome indicators to 'patient derived' outcome measures (Gerszten 1998). The recognition of the limitations of focussing on clinical indicators alone, combined with the need to be able to compare the outcomes of a variety of interventions across different patient groups, led to the development of a new range of instruments designed to measure 'health related quality of life' (HRQoL). The concept of health related quality of life was constructed against a background of the belief that the goal of all health interventions should be to improve patient quality of life. As quality of life is not determined solely by health status, the concept of 'health related' quality of life measures was developed in an attempt to isolate those aspects of 'quality of life' that can be attributed to health. Health related quality of life is defined by Patrick as "the value assigned to duration of life as modified by the impairments, functional states, perceptions, and social opportunities that are influenced by disease, injury, treatment, or policy" (Patrick 1997).

An entire science, which is strongly grounded in psychometric instrument development and evaluation, has developed around the measurement of HRQoL. A range of 'generic' HRQoL instruments, of which the Medical Outcomes Study Short Form 36 (SF-36) is probably the most well known, are available to be used as a basis for health outcome comparison within, and across a range of interventions (Ware and Sherbourne 1992). Additionally, a variety of 'condition specific' instruments have been developed which look at the non-clinical impact of interventions designed to treat specific conditions, diseases or body parts, for example, the Arthritis Impact Measurement Scale (AIMS) (Soderlin, Nieminen et al. 2000) and the Foot Health Status Questionnaire (FHSQ) (Bennett, Patterson et al. 1998).

In order to conceptualise and measure these aspects of health, researchers have developed multi- dimensional models of health, involving more than one health concept or dimension (Kaplan, Bush et al. 1976; Rosser 1988; Ware and Sherbourne 1992). The health concepts most frequently included in such models are:

- morbidity (disease or impairment);
- limitations to functional abilities (disability);
- role limitations because of health problems (handicap);
- bodily pain;
- mental health (psychological distress and psychological well-being);

- vitality (energy/fatigue); and
- general perception of health (eg. excellent/good/fair/poor).

Despite the well-validated (and complicated) techniques involved in developing and validating many of the HRQoL measures, they have not been immune from criticism. The major limitation of HRQoL measures is that they take the quality of life preferences developed within particular groups and expect them to be generalisable to other groups or populations. It has been suggested that these instruments are representative of a western model of health, and may not be appropriate for cultures which have different concepts of health, sickness and causes of disease (Fox-Rushby and Parker 1995). The result is that HRQoL measures still only ask specific questions about a narrow group of domains that could potentially be affected by health at the risk of excluding others which may be of more importance to the patient or more relevance to their health. One author goes so far to say that health outcome measures do not actually look any more specifically at patient outcomes than the physiological measures, they are just a different aspect of physician driven outcomes (Jenkinson 1994). For this reason, it is important that health service purchasers can be certain that the outcomes of care reflect either objectively measured objective parameters of health status, and / or patient reported parameters.

An example by Hill highlights the problems inherent in using a generic health related quality of life measure, in this case, the SF-36, in the evaluation of a continence and mental health clinic (Hill, Harries et al. 1996). Their study found that patient health status, as measured by the SF-36, declined during the intervention period. However, face-to-face interviews found that the intervention had actually improved the continence and/ or coping strategies of the majority of patients. The declining SF-36 scores were attributed to other co-morbidities, or non-health factors, such as a death in the family. In other words, the SF-36 was not sensitive enough to detect the changes resulting from the two interventions. Most authors now recommend combining generic and specific health related quality of life measures to avoid this problem (Hill, Harries et al. 1996).

As an extension of the HRQoL phenomena, health economists have developed Quality Adjusted Life Years (QALYs) which combines the quality of life gained with equivalent additional life years gained from an intervention (Ubel, Nord et al. 2000). QALYs are used as one method of comparing the relative value of different interventions for the purposes of resource allocation (Matchar 2000). Given that QALYs are proposed as a method of allocating resources, they have recently been criticised on the same basis as HRQoL measures, that is, the difficulty of generalising individual health preferences across an entire population. One reason for

this is that that the population samples used to derive QALY weights are not random, representative samples, but frequently convenience samples.

Another type of subjective measure, 'patient generated measures' overcomes the problems associated with the attribution of set values or domains inherent in other HRQoL instruments. They do this by asking the patient to nominate the areas of their life that are affected by the condition being treated. The method of administration of each instrument varies but in general, the patient ascribes a value to the nominated area to reflect the importance of that aspect of their life. The instruments vary in levels of mathematical complexity allowing some to arrive at a single score to reflect the patient's overall quality of life, whereas the simpler instruments compare the patient's progress against each of the nominated domains. The most common of these instruments are the Patient Generated Index (Ruta, Garratt et al. 1994) and the Self-Evaluated Index of Quality of Life (SEI QoL) (Hickey, Bury et al. 1996). Patient generated and HRQoL measures have the advantage over clinical measures that they can be used to evaluate a variety of health interventions, including those for which there are limited clinical measures.

The National Coalition on Health Care list a number of criteria that health outcomes should fulfill to be of use in health service accountability (Schuster, McGlynn et al. 1997). They should be risk-adjusted to account for factors (such as age, gender, and severity of the illness) that influence outcomes but are beyond the health care system's control. Without risk adjustment, it is impossible to determine how much of the improvement or worsening of outcomes can be attributed to the care delivered (or not delivered) by the health care system. Risk adjustment is dependent on being able to identify a number of characteristics about the patients receiving the service that can be linked to service delivery.

The outcomes are most powerful when the components of health service that impact on that outcome are known. This enables quality managers to identify and alter processes of care if the desired outcome is not achieved.

Ideally, health outcomes will be a direct reflection of the health service that is being evaluated. For instance, the outcomes of diabetes care often take a long time to manifest and can represent the results of many years of care (Greenfield, Kaplan et al. 1994). So it would take many years to determine whether a podiatric intervention successfully prevented the onset of ulceration, by which stage it would be difficult to attribute the outcome to the intervention.

The measurement of health outcomes requires a large enough population to be able to detect meaningful changes. When observing for uncommon outcome events, large populations will need to be monitored.

Health outcomes have obvious appeal to health service purchasers, funders, managers and providers as a simple tool to ensure health service accountability. The “integrative function” of outcome measures removes the detail of the way the outcome was achieved to provide a simple summary of the actual outcome of care. This makes outcomes ideal for contracts that specify outputs and outcomes, rather than inputs and processes. Many outcome measures have the ability to incorporate consumer perspectives on health service delivery, rather than simply focusing on clinician derived outcomes of care. The quantification of health outcomes potentially enables health service providers, managers and purchaser to establish benchmarks on the basis of the outcomes of care.

There are a diverse range of outcome instruments that appear to have utility in a number of settings. Despite the appeal and potential advantages of health outcomes, a number of Australian organisations have attempted to implement the health outcomes approach. In most cases, the organisations were forced to compromise from the approach. The following section illustrates the approach applied by six of these organisations.

2.5 Examples of the application of the outcomes approach

This section reviews the approaches taken by number of Australian organisations to measure health outcomes. The examples are the National Goals and Targets – Health Priority Areas, the New South Wales Health Outcomes Initiative, the Outcomes Based Funding of the Divisions of General Practice, the Australian Health Ministers’ Advisory Council (AHMAC) Working Party on Mental Health and the use of outcomes in the National Literacy and Numeracy Project. The list is not exhaustive, however illustrates the implementation of the outcomes approach from a number of different settings.

2.5.1 National Goals and Targets - Health priority areas

Australia was a signatory to the ‘Global Strategy for Health for All by the year 2000’ agreement that was adopted by the member nations of WHO in 1981 (Palmer and Short 1994). The Better Health Commission was established in 1985 to identify the current health status of the population and underlying problems, and propose mechanisms for their improvement. Extensive research and consultation led to the development of five national health priority areas (Nutbeam, Wise et al. 1993). Strategic direction for those attempting to implement health improvement strategies was provided by The Health for All Australians report (Health Targets and Implementation Committee 1988).

The administration and monitoring of the effectiveness of the priority areas using the Health for All Australians presented a number of difficulties. Health for All Australians only defined targets where substantial statistics already existed, with goals based around mortality and morbidity and reductions in risk factors (Nutbeam, Wise et al. 1993). The conceptual framework of the 1988 report did not reflect the broader social and environmental determinants of health such as lifestyle factors and environmental and policy changes. Instead the target focussed on the narrow measures of mortality and, morbidity. This, and other international examples led Australia to take on a broader approach to the setting of goals and targets which was released in 1992. The new framework grouped goals and targets as preventable mortality and morbidity, health lifestyles and risk factors, health literacy and health skills, healthy environments, and the health care system. The ‘health care system’ proposed a focus on the health outcomes derived from the delivery of health services, emphasising the role of health outcomes in resource allocation.

“This will require, in turn, a greater concern for the efficient use of resources and for the attainment of greater equity of outcomes”
(Nutbeam, Wise et al. 1993:16).

Other difficulties in achieving Health for All Australians included a number of deficiencies in existing data sources, preventing the accurate assessment of improvements in health outcomes (Nutbeam, Wise et al. 1993). The mechanisms of accountability for achieving the goals were not clearly articulated. The mainstream health sector continued to focus on the delivery of clinical and diagnostic services, with little reference to their improvements on overall population health status.

The first set of health goals and targets were published in 1988. In 1990, the National Health Strategy (NHS) was established to identify ways of improving the effectiveness and efficiency of the health system with a focus on health care financing. Since then, the achievement of the national health goals and targets have been reviewed regularly, as have the methods of allocating resources to help achieve these goals. By 1990, most states had established their own health goals and targets, although there was still little indication of the impact on health services.

In 1995, the National Health Goals and Targets were renamed ‘National Health Priority Areas’ due to a number of difficulties implementing health goals and targets. Namely, there was lack of national reporting requirements, too many indicators and a lack of emphasis on treatment and the ongoing management of disease (AIHW and Commonwealth Dept Health and Aged Care 1996). The development of targets was one thing, but the ability to accurately monitor these raised a new set of difficulties as acknowledged by the Australian health ministers in 1992;

Achieving change will take time, not least because of the paucity of useful measures of health outcome which could serve as a basis for funding decisions (Nutbeam, Wise et al. 1993:242)

The National Health Goals and Targets Program is a working illustration of an evolution of the outcomes approach for resource allocation at a national level. The program is credited with increasing the emphasis on health outcomes nationally and at state levels. However, the commonwealth lacked the clear directions for implementation and accountability to achieve the desired outcomes and accurately monitor their progress.

The states, in turn, adopted the outcomes approach and were able to learn from some of the difficulties faced by the Commonwealth, as the NSW Health Outcomes Initiative demonstrates.

2.5.2 New South Wales Health Outcomes Initiative

The New South Wales (NSW) Health Outcomes Initiative was established in 1991. NSW was the first state to introduce initiatives that built on the National Health Goals and Targets introduced in 1988 to identify specific priority areas that were proposed as an “outcomes based accountability mechanism” (NSW Health Department 1991). A discussion draft paper released in June, 1991 titled “The development of health outcomes – the future for NSW health” noted that

Previous efforts to encourage the use of targets for health outcomes have floundered because they have failed to properly assess information needs and information management, have failed to introduce accountability for the achievement of specified goals and targets, and have not developed adequate mechanisms for consultation...(NSW Health Department 1991:i)

The document identified ten priority areas for action that were related to the health goals and targets including a range of preventable and treatable diseases and the addition of health service quality improvements. For example, some of the goals for hospital services included; to ensure hospitalisation results in improved health status, to minimise rates of unplanned readmissions to hospital, and to reduce complication rates, adverse drug reactions and hospital acquired infections. No levels were set for these targets due to the paucity of baseline data.

This was the first attempt, at a state level, to define measurable quality targets in health care. They were notably absent from subsequent drafts of the document. In August 1991 a discussion paper was circulated to all states and the Commonwealth which proposed a move away from the “open ended activity driven” funding of

Medicare and toward a “more outcome directed system” where the outcomes would be agreed through Commonwealth – State negotiation. In February 1992, a revised paper was circulated which set a broader range of goals, and targets but no priority areas for action.

Area health services, in turn adopted the health outcomes initiative, using the framework to guide service development, however reported frustration at the level of involvement maintained by the Department.

The result of the NSW Health Outcomes Initiative was the funding of a highly diverse range of projects. At the state level, the emphasis changed from setting targets to producing data (Dugdale 1992). There was an increasing emphasis on health care quality and hospital based accreditation.

NSW Health now appears to have replaced the emphasis on health outcomes with performance indicators. The following disclaimer illustrates the current perception of the relationship of health service delivery to outcomes;

The health of the community is influenced by many factors which predominantly fall outside the sphere of influence of the health system such as socio-economic status, ageing, environmental and lifestyle issues. This makes the development of meaningful linkages between government activities and performance at this level difficult (New South Wales Council on the Cost of Government 2000:6).

Whilst the national and state based approaches did not result in outcome based funding, and the measurable targets remained largely unmeasured, the emphasis on outcome based resource allocation has seen improvements in systems of data collection and a series of quality based initiatives at both the hospital and community levels.

2.5.3 Outcomes based funding – Divisions of General Practice

Divisions of General Practice are organisations based on regional groups of general practitioners (GPs). They are designed to support GPs working together to improve the quality and continuity of care, meet local health needs, promote preventative care, and respond rapidly to the needs of the community (Young and Liaw 1996).

The implementation of ‘outcomes based funding’ for Divisions of General Practice was initially proposed in 1996 (Commonwealth Department of Health and Family Services 1997). Prior to 1996, the Divisions had been in their development phase, which meant that funding focussed on the establishment of divisions and providing incentives for GP involvement. The funding basis of the Divisions was due to

increase in late 1996, which led to deliberations about the basis of funding allocation for Divisions. The project was overseen by the Outcomes Based Block Funding Reference Group who proposed;

A move to outcomes based funding would entail a program approach based on defined and agreed outcomes in a number of key areas in which change could be measured over time. There would be a sharper focus on what the divisions actually deliver to their communities (including their GP members) and less on how and who delivers (Commonwealth Department of Health and Family Services 1997:2).

Despite the broad interest in health outcomes, the goals of the outcomes based funding approach were not made explicit, beyond the “need for accountability” and the desire to embrace evidence based medicine (Weller, Holt et al. 1997).

The proposal emphasised that whilst the outcomes would define the scope for the agreement, funding would be determined by achieving agreed progress towards those outcomes. It also acknowledged some of the potential difficulties around implementing outcomes based block funding, including the inability to attribute the outcomes to the intervention, the barriers around data collection, and the limited funding available to Divisions to support this approach. The proposal also highlighted that a focus on outcomes led to the risk of focussing on the measurable and easily achievable outcomes of care.

The initial approach to the introduction of outcomes based funding was the development of a matrix that specified a range of health priority areas. The matrix examined the outcomes and outcome indicators at the population level, the role of general practice in achieving these goals, and the indicators to measure what the Divisions could do towards the achievement of these goals. Priorities for indicator development were based on the national health priority areas and the availability of evidence to link the outcomes to general practice. In many cases, rates of adherence to clinical practice guidelines were proposed as a proxy outcome indicator. An example of the matrix for early detection of risk for falls in the elderly is illustrated in Table 2.2.

Table 2.2 Example of outcomes and indicators for outcomes based funding

Injuries: falls in the elderly	Health outcomes at the population level	Health outcome indicators at the population level	What general practice can do (outcomes)	Indicators for what general practice can do
Early detection of risk	Decreased mortality & morbidity, improved quality of	Mortality rates due to falls for >65, hospital admission rates due to falls for people >65;	Improve identification of early risk factors including polypharmacy, improve monitoring of age related	% older people identified as being at risk % appropriate

life	hospital admission rates due to fractured lower limbs of men and women >75	changes:vision, muskuloskeletal, neurological changes, and initiate appropriate home assessments (OT)	home assessments completed
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Chain of evidence	What divisions can do (outcomes)	Possible strategies	Indicators to measure what divisions do
Series on clinical management problems in the elderly (NHMRC), falls and the older person, medication and the older person	Increase skills in GP gerontology, improve GPs pharmacological knowledge, improve systems for GPs to monitor risk factors in the older patient	Coordinate or provide training for GPs in gerontology and pharmaceutics	% GPs upskilled %GPs implementing management care plans for practice populations at risk % practices seeking consumer feedback

The Commonwealth Department of Health and Family Services employed consultants to review the proposed outcome indicators and information requirements to implement the approach (Weller, Holt et al. 1997). The consultants concluded that the lack of information technology infrastructure in Australian general practice was a barrier to the collection of outcome based indicators. For instance, many of the indicators required the identification of patients with certain characteristics, such as a diagnosis of diabetes or a particular age and gender. This information was necessary both to form a denominator for change in rates of the condition and to help the identification of target populations for the delivery of preventative services such as immunisation or screening. The low rates of computerisation of general practice at the time of this report would have prevented the introduction of these initiatives.

Many of the indicators and clinical practice guidelines that were proposed in the preliminary proposal were still in the developmental stages and had not been appropriately evaluated. Some were clearly difficult to attribute to a general practice based intervention, such as rates of hospitalisation. For instance, the many potential sources of error in hospital datasets, state differences in the types and quality of data collected meant that this was a complex indicator. The few indicators that were endorsed were those with clear relationships between the outcome and the indicator, such as rates of cervical screening and immunisation. Whilst the consultants endorsed the use of clinical practice guidelines as a method of achieving health outcomes, they acknowledged the difficulties with GP uptake and monitoring of the guidelines.

In 1999, the Commonwealth Department of Health and Aged Care released an implementation guide for the twenty-one divisions piloting the Outcomes based funding Approach (Commonwealth Department of Health and Aged Care 1999). In comparison with the highly prescriptive outcomes and performance indicators of the 1997 consultation phase, the implementation guide was broad, and allowed the Divisions a great deal of scope in the delivery of their care.

Neither this guide nor the plan templates attempt to provide direction on the actual content of plans, ie what activities divisions should be doing in their local areas (Commonwealth Department of Health and Aged Care 1999:3).

The new requirements of the Divisions included; the development of a three-year strategic plan, which included the outcomes to be achieved in each program, a one year business plan, improvements in evidence based care and the provision of performance information that focussed on activities achieved by the divisions. The Department expected that outcomes based funding would, amongst other things, enable Divisions to “have a continuous cycle for monitoring outcomes and using this information to improve the quality of the divisions’ programs” (ibid. p6).

The Divisions involved in the pilot of the Outcomes based funding approach have completed their reports on the first funding cycle, which ran from January 1998 until June 2000. An example of a report is that by the ACT Division of General Practice. It has a Strategic Plan that included six goals and seventeen objectives. None of these goals or objectives specifically include health outcomes. The Division reported against eight “outcomes based funding related programs”, including HIV/AIDS, mental health, after hours care, coordinated care and a youth health program. The only health outcome related performance indicator that was reported from the initial matrix was immunisation rates. Most of other projects were short-term programs which were funded for a specific period of time, some of which reported on health outcomes, but the majority reported other outcomes such as the establishment of or attendance at training. Ironically, the move to outcomes based funding reduced the operating revenue of the ACT Division of General Practice by approximately 50%. At the same time the research, evaluation and education officer was made redundant (the report does not make a causal link) when it appears that a large proportion of the outcomes based funding was dedicated to evaluation.

The Outcomes based funding of the Divisions of General Practice aimed to ensure general practitioner, and divisional accountability through the use of a suite of health outcome measures and performance indicators. A number of the difficulties around the application of the approach were identified prior to the implementation of the outcomes based funding. However, the reality of the implementation reflected an extremely dilute version of the original proposal. The initial strategy involved a highly resource, and information intense investigation of the practice of individual doctors. The final outcome was a series of projects at divisional level that were targeted at improvements in GP infrastructure, such as training, and coordinating health service delivery at a systems, rather than a clinical level.

2.5.4 AHMAC National Working Party on Mental Health

The National Mental Health Information Strategy Committee of the Australian Health Ministers Advisory Council National Working Group on Mental Health Policy commissioned a study of the development of consumer outcome measures that could be applied nationally (Andrews, Peters et al. 1994). The health outcome related objectives of the National Mental Health Policy were the;

- *regular reviews of outcomes of services provided to persons with serious mental health problems and mental disorders as a central component of mental health service delivery (objective 30), and*
- *development of national outcome standards for mental health services, and systems for assessing whether services are meeting these standards (objective 32).*

The outcomes project involved providers (psychiatrists and general practitioners) trialing a suite of health outcome measures to determine the feasibility of their application for specific mental disorders and a range of clinical practice settings.

The result of the trial was that the researchers experienced difficulty with the processes of health outcomes data collection, rather than the actual instruments (Stedman, Yellowlees et al. 1997). For example, there were resource implications around the introduction of health outcome measures at the clinical level, such as time and reimbursement considerations for providers. The consumers did not believe that health outcomes data should be used to judge the quality of health service provision. Instead, they suggested that the evaluation of health service provision should be explicitly obtained. Consumers had difficulty completing the questionnaires if they were unwell. The researchers acknowledged that completion of the questionnaire might actually produce a negative impact on the consumer. Finally, the researchers reported difficulties attributing the change in health outcomes to the intervention.

The recommendations arising from the report were that health outcomes assessment should form a routine part of health service delivery and that outcomes assessment should be a goal in itself. However, the attempt to introduce a national consumer outcome measure that could assess service standards should not be the primary focus at this stage.

The researchers identified that the information collected at the “grass roots” level could not currently be translated into relevant information for higher level management and further investigation of this approach was required.

This project has demonstrated barriers around the collection of health outcomes data on a routine basis in a clinical setting. The issues included the resource requirements, attribution of the outcome to the intervention, the uses of the data outside of the clinical intervention and the potential impact of the administration of the instrument on the health outcomes of the patient. Outcome measures were proposed as a tool through which standards could be set but could not be applied in this way.

2.5.5 Department of Veterans' Affairs: Community Nursing

The Department of Veterans' Affairs (DVA), in line with the changing emphasis from funding health service throughput to health service quality, undertook a large project to investigate health outcomes for community nursing (Emerson 1999). The project was prompted, in part, because of the large interstate variations in the costs and volume of services delivered. At the time of the introduction of the project, there were no other models on which DVA could base their service changes and under the previous approach to purchasing nursing services, there had been no systems of accountability for community nursing.

The outcomes model developed by DVA involved a multifaceted approach which included provider accreditation, adherence to best practice clinical processes and the documentation of health outcomes by nurses. The nursing agencies had to be accredited according to standards defined by DVA, and DVA took on the role of monitoring the accreditation systems. All veteran files were required to include a completed care plan, and the veteran was expected to be given a copy. Providers were required to measure and document the health outcomes for all veterans in the veteran file.

DVA described a number of policy and technical barriers to the implementation of the health outcomes approach. They found that the notion of 'purchasing health outcomes' was incompatible with their current payment structure, and the expectations of providers who were used to time based payment. The new model attempted to focus on episodes of clinical care, rather than single occasions of service. DVA found that this was also incongruent with the provider expectations of a time-based payment. Community nurses had difficulty defining both the services that they delivered and the outcomes arising from these. The role of DVA changed from a purchasing function to a monitoring function, which was highly resource intensive.

There were a number of technical issues around the introduction of the new model. DVA required far more information from providers than they had previously received on their billing vouchers. Few of their providers had the information technology infrastructure necessary to produce this information electronically, which meant that

DVA received 65% of minimum dataset input on paper. The quality of the data were poor, and up to one third of paper records required manual correction. Where data were provided electronically, they came in a variety of formats that were not necessarily compatible with the DVA information system. Providers were also found to lack the technological knowledge and skills necessary to comply with the minimum information requirements.

At the clinical level, there were few validated, accessible community based clinical pathways that were appropriate for nursing interventions. This led DVA to invest in the development of clinical pathways for areas of high resource use. DVA invested resources in the development of clinical pathways for their most common, or most costly interventions, such as wound management, incontinence and aged care. A number of providers lacked the skills or commitment to undertake client care planning and incorporate clinical pathways into their routine care.

The Department of Veterans' Affairs has developed a high standard for community nursing providers, based on accreditation systems which they monitor and enforce. The outcomes and accreditation system is expensive to implement, and there is still no published data about the variations in cost and service delivery between different state providers. DVA set out to monitor health outcomes, but have developed systems that monitor provider adherence to processes, not health outcomes.

2.5.6 Commonwealth Numeracy and Literacy Program

Attempts to use health outcomes as a method of resource allocation are not isolated to health. The Commonwealth Department of Education, Training and Youth Affairs commissioned a report on the possibility of allocating resources for the Commonwealth Literacy and Numeracy Program on the basis of outcomes, rather than their historic basis for funding, socio-economic status.

“Outcomes have been a key feature of reporting and accountability processes, and have been incorporated into programme evaluation, but they are not usually incorporated into resource allocation procedures” (Ainley 1999:15).

The author concludes in the report that resources should be allocated on the basis of efficiency, effectiveness and equity, and that “a focus on outcomes would imply that the index used ought to have the highest correlation with the achievement in numeracy and literacy” (Ainley 1999). Instead, he proposes that outcomes data should be used as part of the internal monitoring and review processes of the individual schools. The limitations of outcomes based resource allocation are the difficulties comparing schools, identifying appropriate measures of numeracy and

literacy, variations in school structures and incorporating socio-economic status into these measures (Ainley 1999).

2.6 Summary

Despite using different approaches, each of these projects has demonstrated some deviation from the ideal of the measurement and aggregation of outcomes data for the purpose of reporting on the effectiveness of different levels of the health (and education) system. However, a number of common themes have emerged across the projects. These can be clustered broadly under three headings. The first is the lack of a clear description of the accountability structures under which the health outcomes approach was applied. The second issue is the lack of appropriate technology to apply or extract the health outcomes data. Finally, each project had problems identifying appropriate outcome measures or indicators that could be used.

The locus, domains and procedures of accountability were not made explicit in any of these examples. Thus, in the outcomes based funding of the Divisions of General Practice, it was unclear whether the Divisions or the GPs were responsible for the improved outcomes, and whose outcomes they were trying to improve. The responsibility for meeting the National Health Goals and Targets is not clear. Similarly, there are questions as to whether the Department of Veterans' Affairs should take on the role of monitoring the organisations whose services they are purchasing. The questions of who is accountable for what, and to whom need to be addressed before the blanket answer of 'health outcomes' can be applied within a health service management setting.

Table 2.3 summarises the key points arising from the examples that both influence and result from the organisation's application of health outcomes.

Table 2.3 Summary of the barriers experienced by organisations in their attempts to introduce the health outcomes approach

<i>Organisation</i>					
<i>National goals and targets</i>	<i>NSW health outcomes initiative</i>	<i>DGP</i>	<i>AHMAC mental health</i>	<i>DVA community nursing</i>	<i>Education</i>
<i>Purpose</i>					
National goal setting	State based goals setting for hospital services	Determine effectiveness of divisions	Determine whether services are meeting standards.	Linking costs to outcomes for nursing services	Aim to use outcomes as basis of distributing funding resources
Only used indicators where substantial data already available	Lack of baseline data to use to set goals	Difficulty attributing the outcome to the intervention issues	Resource implications for data collection	Use of clinical pathways to define the processes of care	Difficulty identifying outcome measures
Difficulty monitoring outcomes	Focus on producing data instead of setting targets	Barriers to data collection – lack of IT infrastructure	Outcomes as a goal in themselves	Lack of measures	Unable to attribute outcomes
Lack of useful outcome measures	Results were better data and quality systems	Focus on measurable and easily definable	Use of instrument might impact on the patient	Lack of IT infrastructure	Problems linking funding to outcomes
Lack of available data		Indicators used as proxies for outcomes	Difficulty attributing outcome to intervention	Poor quality data	
Accountability relationships not articulated		Difficulty identifying appropriate indicators	Realisation that outcomes should not be used to set service standards	Role of the purchaser changed – became monitoring body	
Difficulty to relate outcomes to impact on health service		Difficulties with GP uptake and monitoring of guidelines	Can't translate outcomes information into management information	Time based payment, difficult to transfer to outcomes based payment	
		Accountabilities not clear	Unwell service users have difficulty completing outcome measures	Expensive to implement system – no way of linking variations in outcomes to funding	

The examples highlight a number of technical and practical barriers to the use of health outcomes, or outcome related performance indicator data. The enthusiasm for the collection of health outcomes data appears to have preceded the information systems and technical skills necessary to facilitate the routine collection of outcome or process related information. The National Health Goals and Targets, NSW Health Outcomes Initiative, Divisions of General Practice, AHMAC National Working Party on Mental Health and DVA projects all specifically identified a lack of information technology infrastructure as a barrier to implementing the health outcomes approach. The additional time, and therefore cost of collecting outcomes data is acknowledged in a number of cases. The quality of the data that is provided is also questioned in a number of these examples.

Finally, there are issues around the measurement of health outcomes. There is a perception that there are a large number of clinical practice guidelines and related performance indicators. However, the reality of implementing, monitoring and then making sense of these data substantially reduces the number of indicators with real-life practical applications in the clinical setting. At a population level, the Health for All Australians found deficiencies in data sources to facilitate the accurate measurement of population changes in health outcomes and difficulties attributing these changes to the delivery of health services. Even at the service level, the services identified difficulties with the attribution of the health outcomes approach. The early attempt by Health for All Australians to incorporate health outcomes focused on those outcomes that already had well-established statistics. Later approaches tended to measure what could be easily measured such as service throughput, rather than their impact on the outcomes of care.

Should resource allocation be tied to outcome measures? As the education example illustrates, it is those schools that have the smallest improvement in numeracy and literacy that will actually require the greatest injection of funding. To reward health services for greatest improvements in outcomes is counter-intuitive. Changes in health status can sometimes be attributed to an intervention, however all of these projects acknowledged the difficulties making this link. Linking funding to outcomes was identified by DVA as a problem both due to difficulties defining the interventions and an historical basis of time based payment, rather than outcomes based reimbursement. Rewarding health services for the provision of good health outcomes will shift funding from areas of high need to areas of low need.

The focus on health outcomes has, in most cases, changed the emphasis of health care delivery. Health service funding is more likely to be based on nationally and

locally determined health priority areas, not solely through service driven demand. The drive for outcomes has led purchasers and funders to investigate models of best practice care which have largely become a substitute for health outcomes measurement when the outcomes cannot be measured. Few authors have recommended that health outcomes should not be measured, however most have acknowledged the difficulties linking funding to any form of outcome measurement.

The health outcomes approach has obvious appeal at all levels of health funding, policy development and delivery. However, the reality of implementing the ideals of the health outcomes model is somewhat removed from the expectations of those who have attempted to apply it. To date, there has been no systematic analysis of the application of health outcomes to health service accountability. As a result, the expectation that health outcomes can and will form a basis for health service accountability has continued to grow. The remainder of this thesis explores, in depth the experiences of two organisations that attempted to use health outcomes within a purchaser/funder – provider relationship by exploring their applications of the outcomes approach and the accountability relationships within which they were applied.

2.7 Conclusion

This chapter has highlighted the complex array of variables that form the apparently scientific application of the health outcomes approach to health service accountability.

The services to which the outcomes approach is being applied, in this case, community and allied health services, represent a potentially infinite arrangement of different workers who can provide care from a range of settings to an equally diverse group of service users. Contextual and organisational differences in the structure of health service delivery means that the providers that form this group can range from ‘traditional’ allied health services, such as physiotherapy and podiatry to specialised services such as aboriginal health workers. The uniting factor for these types of services is often their relatively small size, forcing them together under collective management structures or for the mutual benefit of collective lobbying power (The Coalition of Health Professionals 2001).

The modern approaches to accountability attempt to simplify the complex interactions of patient care to a small number of simple indicators. However, attempts to identify meaningful indicators that accurately reflect the processes or outcomes of care have proven challenging across the whole spectrum of health

service delivery from primary to acute care. Additionally, the value of the indicators is driven by the social values that underpin the delivery of health care. As societies' values change, so must the indicators to reflect the benefits of care to the recipients or stakeholders. Thus, the search for a 'perfect' indicator is likely to be an elusive holy grail.

A number of organizations have attempted to introduce the health outcomes approach, ranging from a national and state perspective to drive resource allocation, to a measure of health service effectiveness. However, all of these organizations have had to compromise in their approaches. Where health outcomes are used, they tend to focus on the crudest outcomes, such as mortality and morbidity. All projects acknowledged the difficulties attributing outcomes to the intervention. This approach is likely to be confounded when the services cannot be clearly defined, as is often the case in the community and allied health setting.

The lack of a critical review of the application of health outcomes continues to propagate the perception that health outcomes are an appropriate tool for health service accountability. The result is that managers and purchasers continue to expend resources to attempt to apply health outcomes but have difficulty doing so in a way that is meaningful or valuable as the previous examples and the following case studies illustrate. The in-depth examination of the two organizations with which I was involved provided an opportunity to obtain insights to inform the theory of the health outcomes approach and provide an understanding of the application of outcomes in health service accountability structures. The remainder of this thesis systematically investigates the attempts by two organisations, ACT Community Care and the Department of Veterans' Affairs to implement health outcomes as a management tool to provide some understanding of the barriers to the application of the outcomes approach to health service accountability.

3 The research approach

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3.1 Introduction

Chapter two highlighted the complexity of community and allied health services, the dynamic and culturally dependent nature of the new accountability systems and the perceived role of health outcomes in these new accountability structures. Chapter two also provided examples of a number of organizations that attempted to adopt the health outcomes approach to health service accountability, but were unable to do so. The examples illustrate a number of barriers to the application of the outcomes approach, but do not provide the reasons why the outcomes approach was unsuccessful. Despite the lack of success by these organisations, the outcomes rhetoric continues to infiltrate accountability culture. The use of outcome measures continues to be widely promoted, with significant resource implications, however the benefits of their use as an accountability tool remain unclear. Importantly, there has been no in-depth analysis of why health outcomes, which have such intuitive appeal to purchasers, managers and even clinicians, cannot be used to allocate resources or, necessarily, even to demonstrate health service effectiveness outside a controlled environment.

I was involved with two community and allied health organizations that attempted to use health outcomes in purchasing contracts. These organisations also experienced difficulties implementing the approach. It was not until some way through my involvement in each organization that it became apparent that they would not be able to use health outcomes as they had intended. Because of the level of my involvement with both organizations, they presented a unique opportunity to explore, in depth, the barriers to the application of the outcomes approach to health service accountability and contribute to the limited, existing body of research in this field.

The two organizations are ACT Community Care and the Department of Veterans' Affairs. A full description of each organization is presented in the Chapters Four and Five respectively. Each organization is unique in its structure and its approach to the use of health outcomes, thus there is intrinsic value in the examination and description of each as a stand-alone case study (Stake 2000). However the ability to juxtapose the issues arising from both organizations in the context of the existing literature presents a further opportunity to develop theory that may have relevance to other managers, purchasers and providers contemplating the development of their accountability structures.

The research required a methodology that would fulfil the following criteria;

- Theory generating, to obtain an understanding of why the outcomes approach did not work; and
- Naturalistic, so it could draw from the actual settings, context and available data.

A qualitative research approach was required to address these criteria. Where quantitative research emphasises measurement and the statistical relationship between variables and aims to be ‘value-free’, qualitative research explores the “qualities of entities and processes and meanings that are not experimentally examined or measured in terms of quantity, amount, intensity or frequency” (Denzin and Lincoln 2000). Qualitative research aims to examine social experiences within their situational constraints whilst acknowledging the relationship between the researcher and what is being studied. It is the ability of qualitative research to explore the context and setting of events, in depth, that enables an examination of the reasons why the organizations were unable to apply the health outcomes approach within their organisational context. Quantitative research would not have supported the exploratory nature of the research question or provided the depth of understanding required to examine the barriers to the application of the outcomes approach.

Each organization is presented and examined as a case study of the implementation of the health outcomes approach. Case studies enables the researcher to focus on the whole case, not just specific variables, to emphasise an understanding of the case within its wider context (de Vaus 2001). Stake argues that case study is not a method but a choice of what is to be studied. A case study is a “process of inquiry about the case and a product of that inquiry” (Stake 2000). The term ‘case study’ highlights the importance of the learning that can be derived from a particular case, but says little about the methods used to analyse it.

The defining features of a case are (Merriam 1998; Stake 2000);

- It is a bounded system such as an organization, institution, team or social group .
- The case itself has working parts
- The case is an integrated system
- The case will have a particular pattern of behaviour

- They need to be seen and described in the context of a wider system, or other cases.

Case study research is widely used in, and has made a valuable contribution to management, public administration and health services research (Yin 1994). They typically use interview, observation, archival or other data to describe a situation or events that lead to a decision or outcome (Yeager 1998), however any methods of data collection can be used (Merriam 1998). Consequently, they have the advantage that they allow the researcher to reflect on the context and time frame in which activities take place, using multiple sources of data (Yin 1989). Case study analysis is designed to achieve a logical flow of how events unfold and how they are linked to one another. It does not aim to produce findings that are universally accepted. Rather, it focuses on depth of understanding of a situation or issue (Yin 1983). Case studies allow ‘the holistic and meaningful characteristics of real-life events’ such as organisational and managerial processes to be explored by the investigator (Yin 1994).

Case studies are often used for theory generating, however there has been a lack of clarity about how to use case studies in this way (Eisenhardt 2002). Eisenhardt has developed a ‘road map’ that integrates the principles of grounded theory with case study methodology for the purpose of theory building. Grounded theory uses an iterative approach to explore a problem or question to develop emerging theories (Glaser and Strauss 1967). Data (interviews, archival information, focus group data) are collected and examined, the problem is further analysed, until a theory is developed. Both tools have been used in management and health service research (Parker and Roffey 1996). I have drawn on this approach in examining the two case studies.

The following table summarises the process of investigation of case studies for theory building, and the adaptation of the approach for this thesis (Adapted from Eisenhardt 2002).

**Table 3.1 Eisenhardt’s case study road map as it is applied in this thesis
(Eisenhardt 2002)**

Step	Activity	Purpose	Approach
Define the research problem	Define question A priori constructs Neither theory nor hypotheses	Focus research Provide grounding of construct measures Retain theoretical flexibility	Barriers to the application of the health outcomes approach. Conditions that need to be met in order to use health outcomes.
Select cases	Specified population Theoretical, not random sampling	Constrain extraneous variation and sharpen external validity Focus efforts on theoretically useful cases	“Revelatory” cases were selected because they allowed an in-depth understanding of the research problem
Collect data; develop instruments and protocols	Multiple data collection methods Combine qualitative and quantitative data Ideally, multiple investigators	Strengthen grounding of theory by triangulation of evidence Foster divergent perspectives Speeds analyses and reveals helpful adjustments to data collection	Multiple data collection methods used across both case study sites.
Analysis of data	Within-case analysis Cross case pattern search using divergent techniques	Gain familiarity with data and preliminary theory generation To forces investigator to look beyond initial impressions and see evidence through multiple lenses	Within case analysis – presented as an analysis at the end of each chapter Cross case analysis – presented in chapter 6.
Shaping propositions	Iterative development of evidence for each construct Replication, not sampling, logic across cases Search for evidence for ‘why’ behind cases Comparison with similar and conflicting literature	Sharpen construct definition, validity and measurability Confirms, extends and sharpens theory Builds internal validity, raises theoretical level and sharpens construct definitions Sharpens generalisability and raises theoretical level	Propositions arising from the cross- case analysis of the two case studies Verified against existing literature described in Chapter 2.

3.1.1 Define the research problem

The research problem was stimulated by the inability of two organizations to include measures of health outcome in purchasing contracts with individual providers or with the providing organization. My involvement with each organization was slightly different. In ACT Community Care, I was employed to identify health outcomes that could be incorporated into purchasing contracts. Within the Department of Veterans' Affairs, I was employed to evaluate an

approach to health outcomes measurement that was developed by researchers from another university. Both organizations were attempting to use health outcomes as a way to ensure health service provider accountability. The health outcomes approach being adopted by both organizations, whilst challenging, was in line with what current political and health care systems demanded. It was not until some way into both pieces of work that the barriers, and a number of similarities to the application of the outcomes approach became apparent.

Because the question arose during the course of my involvement with the two organizations, I did not collect data with a particular theoretical orientation in mind. Whilst prior specification of a theory or approach may have facilitated more directed data collection techniques, Eisenhardt (2002) highlights the tentative nature of a priori constructs in theory building research.

I have examined the organizations from two perspectives. The first is to examine the accountability relationships within each organization; what the stakeholders were being held accountable for, and where health outcomes fit within the accountability relationships. The second approach was to unpack the factors around the application of health outcomes that limits their application for the purpose of ensuring contractual accountability. It may have been possible to use an alternative theoretical framework to examine the barriers to the applications of health outcomes. However, as health outcomes have evolved through the growth of accountability systems arising from neo-liberal governmentality, and this is the environment in which they are being applied and failing, this was the most appropriate context in which to examine them.

Thus, the two broad questions that shaped the analysis are;

1. What are the barriers to the application of the health outcomes approach to health service accountability for community and allied health services?
2. What conditions must be met before health outcomes can be used as an accountability tool in purchasing contracts for allied health?

3.1.2 Selecting cases

Case studies are used for theoretical rather than statistical generalization, therefore cases do not necessarily need to be selected on the basis that they are typical of a wider population (de Vaus 2001). Nor do cases need to be 'typical' of a wider population (de Vaus 2001). Indeed in the instance of community and allied health services, a typical case study site would be difficult to find given the diversity of

models and approaches to care. Sampling should ensure the selection of illuminating examples of a case. Glaser and Strauss use the term 'theoretical sampling' whilst Hakim uses the term 'focused sampling' to refer to the process of selecting cases on this basis (Glaser and Strauss 1967; Hakim 2000).

Few standard methodologies are equipped to examine the reasons why an organisational intervention did not work. Unless an evaluation of the approach was undertaken as part of its introduction, such research will be retrospective and can involve a complex range of interactions that many of the actors may be unaware of or may not recollect after the event. It may be possible to identify other case study sites to explore the same issues prospectively, however, there are resource and ethical considerations of proceeding with a prospective study of an approach that has been shown to be flawed elsewhere, without intervening. Few organizations set out to introduce an approach that they believe will fail. The examination of other organizations that were unable to introduce the outcomes approach as they intended, presented in chapter two, reinforces the nature of the problems and may highlight idiosyncrasies that are unique to specific sites, but does not present the solutions. Identifying an appropriate theoretical framework to examine such an intervention retrospectively can also be challenging.

Despite these difficulties, it makes practical sense to derive as much learning from the failed approaches to inform further service development and provide a theoretical framework for analysis. As a result, this research aims to draw the learning from the two organisations with which I was involved, as well from the published examples in the literature, to identify lessons which may be relevant for other services that attempt to introduce new accountability structures that include health outcomes. Yin (1989) has labelled this type of approach a 'revelatory case', where the investigator has the opportunity to explore problems or issues that have previously been inaccessible to researchers. Other research, most notably that by Flynn et al in the UK community health service, have identified a number of barriers to the application of health outcomes in health service accountability in the community health sector. However, my involvement with ACT Community Care and the Department of Veterans' Affairs, presented the opportunity to explore the application of the outcomes approach in situ, drawing on my own experiences within each organisation, providing an in-depth understanding of the organisational culture and to examine the application of the health outcomes approach in a way that has not previously been described in Australian literature.

The study of each organization highlights their individual difficulties with the application of the outcomes approach. The contrast between the two organizations provides the analytical advantage of comparison. Some of the differences include; the purchaser versus provider perspective in implementing the outcomes approach; the geographic dispersion of private providers as opposed to the co-location of providers under a single management structure; the direct contracting of services from individual providers in contrast to the providers being employed on a salaried basis and; a comparison of the 'community health service' model of health service delivery with a veteran, or individual focus on health service receipt.

There are some similarities between the two organizations. Both attempted to utilise health outcomes in community and allied health service accountability. Both were under-prepared for the application of the approach in terms of data collection, audit procedures, and the use of supporting management and information technology infrastructure.

The different organisational structures are described at the start of each case study and the way that they impact on the outcomes approach is described within each case study and compared in the cross-case comparison within the analysis.

My involvement within each of the organizations gave me the ability to engage in the organisational culture, observe, participate and access information relevant to the research questions, giving me a unique, and in-depth perspective of the barriers to the application of the health outcomes approach that I could not have had as an outside observer.

As stated previously, it would have been difficult to identify other organizations in which to ask the same research questions prospectively. The literature review includes the summaries of six other attempts to introduce health outcomes, which provides a valuable basis for comparison, theory building and verification of the findings.

3.1.3 Data collection, developing instruments and protocols

The development of 'instruments and protocols' refers to the approaches to accessing data within the case study organizations. Case study research is sometimes cited as a prime example of qualitative research. Yin disputes this claim on the basis that the qualitative / quantitative distinction is irrelevant and that case studies can embrace any form of data collection (Yin 1983). Marsh reinforces the limitations of relying on a single type of data, whether it be qualitative or quantitative, to explain social action (Marsh 1982). Rather, she argues that social research should involve 'collecting a sufficiently complete picture of the context in

which the actor finds herself that a team of outsiders may read off the meaningful dimensions' (Marsh, 1982:123-4). Eisenhardt promotes the combining of qualitative and quantitative evidence within case studies to facilitate the triangulation of multiple data sources (Eisenhardt 2002).

Each case study incorporates a wide range of evidence sources, including survey results, observation, file audit and archival information such as reports. The case studies are drawn from the final reports presented to ACT Community Care and the Department of Veterans' Affairs which have been endorsed by the relevant committees in both cases (ACT Quality and Safety Forum, 2001; Department of Veterans' Affairs Health Outcomes Steering Committee, 2001).

Eisenhardt recommends the use of multiple investigators to both enhance the creative potential of the study and increase the convergence of observations which will increase confidence in the findings. The retrospective nature of this analysis means that it was not possible to recruit other researchers during the data collection phase.

Theory building research often builds in concurrent data collection and analysis to promote flexibility in the approaches to data collection. Theory building research often uncovers new areas that need further investigation to support development of the theory. Case study research allows the introduction of additional data sources and new methodologies can be introduced to provide the depth required to investigate the research question (Harris and Sutton 1986).

A limitation of my study is the retrospective nature of the research, which precluded analysis during the data collection phase of the research and limited my ability to access new sources of information that may have supported the development of the theory. Instead, my involvement in both case study sites allowed me to access a diverse range of information which has been incorporated as required to address the research question. This "controlled opportunism" is supported by Eisenhardt as a way of taking advantage of the uniqueness of the case whilst examining emerging themes to support the development of the theory (Eisenhardt 2002).

3.1.4 Analysing the data

Case study research has been criticised on the basis that the analytical techniques are often not presented in a way that leads the audience to understand how the conclusions are derived from the data because few authors clearly describe the analytical techniques they employed (Miles and Huberman 1994). The methods of analysing qualitative case study data are not as well developed as methods used for

other types of analysis and rely largely on the recognition of patterns within each case to test theories or propositions (Yin 1989; de Vaus 2001).

Within theory building case studies, analytic induction is required. Denzin describes analytic induction as “a strategy of analysis that directs the investigator to formulate generalisations that apply to all instances of the problem” (Denzin and Lincoln 1994). Case studies produce an enormous volume of data, which can make systematic analysis cumbersome. Within-case analysis and then subsequent searching for cross-case patterns are valuable approaches to managing large volumes of data in a systematic way (Eisenhardt 2002).

Within-case analysis involves a detailed description of each case study to enable the researcher to obtain in-depth familiarity with each case and to examine the insights emerging from each site. A number of different approaches have been employed for within-case analysis, the presentation of which is often driven by the types of data that have been collected within the case study sites. For instance, graphical or survey data can be presented with a narrative description of the site. Other authors have organised data into tables (Leonard-Barton 1988). There is no ‘correct’ way of undertaking within-case analysis.

Cases need to be presented in a way that enables the reader to follow the events that unfolded within the setting to derive the learning specific to that study (Stake 2000). They also need to be framed in a context that recognises the understanding or experience of the audience for the research (Stake 2000).

For the purpose of this study, each case is presented as a stand-alone chapter that describes the organisational structure; the reasons behind the adoption of the outcomes approach; the actual approach that was adopted; and the results of that approach.

Case study research emphasises the uniqueness of each case and the learning that can be derived from individual case study sites (Stake 2000). To emphasise the learning derived from each case study site, each organization has been presented as a narrative summary of the pertinent issues around the introduction of the health outcomes approach in Chapters 4 and 5 respectively. The within-case analyses conclude the corresponding chapters by exploring the barriers to the implementation of the outcomes systems. The supporting data, such as reports, for each case study is presented in the Appendices. Because of the contrasting settings and approaches, each case study emphasises different aspects of the application of the health outcomes approach. The within-case analyses examine the issues that are specific to each organization.

In order to examine the issues that are common to both organizations, and the learning from their approaches generally, cross-case analysis is undertaken in Chapter Six. Cross-case analysis utilises a systematic framework to search for patterns that emerge from the data (Eisenhardt 2002). The purpose of cross-case analysis is to prevent the researcher from drawing false conclusions that are based on limited data, or on responses that are more noticeable or from more influential respondents. Again, there are a number of approaches, but no correct way, to examine the cases.

Eisenhardt suggests three strategies for cross-case analysis. The first is to identify categories and then examine each case study for within-group similarities and inter-group differences. The categories can be determined by the literature or may arise from the research question. A matrix can be used to organise and compare the themes arising from the cases according to each category.

The second method uses forced comparisons of cases by searching for similarities and differences within each case study. This can be undertaken by comparing pairs of case studies, or may use groups of case studies with three or four cases in each cluster.

The third approach is based on the examination of data by data source. Data are separated according to the method by which it was obtained, for instance observations, interviews, surveys and archival sources are analysed separately.

To achieve within-case and cross-case comparison for the purpose of identifying the emergent themes within the two case studies, I have tabulated the key themes emerging from each case study. The cross case analysis examines the findings from the two case studies under the headings of 'accountability' and 'outcomes'

Two levels of analysis were required in this research. The first was an understanding of 'what' is happening within each case study, which relies on the documentation of the barriers to the application of the health outcomes approach within each organization. The second level of analysis is an interpretation of 'why' these barriers were occurring, which relies on the theoretical data available in the literature review and my own theory building.

3.1.5 Shaping propositions

The review of the literature and within and cross-case analyses leads to the emergence of a number of themes. Hypothesis development is an iterative process that examines the 'fit' of the emergent themes to the case study data. Unlike quantitative techniques which allow statistical verification of the relationship between variables, qualitative hypothesis development involves developing

constructs and verifying relationships (Eisenhardt 2002). Empirically valid theory depends on a close fit between the theory or hypotheses and the available data.

This research has relied on two approaches to the development of propositions. In the first instance, I have used a simple juxtaposition of the cross-case and within-case analysis to identify the key barriers to the introduction of the health outcomes approach. This addresses the ‘what’ question, but does not address the issue as to why health outcomes do not work. This summary is presented in chapter six in the form of a matrix which separates the ‘accountability’ issues from the ‘health outcomes’ issues to highlight the themes that have emerged within each site. To increase the validity of these findings, I have incorporated the barriers identified in the six examples presented in chapter two. However, as stated previously, these findings reinforce the extent of the barriers to the approach and provide some suggestion as to the reasons that these barriers have arisen, but they do not suggest a solution. Therefore I have drawn on the detail available from the two case studies to explore the two major themes, ‘accountability’ and ‘health outcomes’ in depth to obtain greater understanding of the barriers and to identify a solution to the health outcomes problem. The in-depth analysis draws from the review of the literature to help contextualise, explain and develop the relationships, to begin to address the ‘why’ issues.

The outputs of the research are both an in-depth examination and understanding of the types of barriers that similar types of organizations are likely to face when they attempt to introduce the health outcomes approach and a break-down of the accountability structures within organizations that can be used to identify more appropriate accountability mechanisms.

3.1.6 Validity of the results.

The concept of validity in qualitative research has been the subject of a great deal of debate. Whilst some argue that validity is a useful concept in qualitative research (Kvale 1989; Maxwell 2002) others view it as a “positivist” notion that is applied inappropriately in qualitative research (Guba and Lincoln 1989; Wolcott 1990). Much of this criticism arises from the positivist assumptions that underpin the dominant models of validity, such as the concepts of predictive validity, convergent validity, concurrent validity and internal / external validity (Yin 1989; Stake 2000). However, there have been few alternative models that can be adopted by qualitative researchers.

As one purpose of this research was to explore a commonly occurring phenomenon (the organisational difficulties implementing the health outcomes approach) so that

other organizations could learn from these examples, the results must be presented in a way that has value in other settings. However, few organizations would wish to replicate this research for the reasons described earlier, nor will any setting be identical to the services described. Thus the value of the studies will depend, in part, on the interpretation of the information by the reader and the relevance of the findings to their own setting (Stake 2000). Therefore, the cases need to be presented in sufficient detail that the reader has the ability to understand the similarities and the differences between the services described and the setting in which the results may be applied. It is important in this research that the findings have *relevance* to a wider audience, and *validity* so that the relevant audience will place some store in the results.

The question of relevance has been addressed by the data presented in the literature review, including the six examples of other organizations that attempted to introduce the health outcomes approach. The new systems of accountability are being utilised internationally, by a range of stakeholders for different purposes, and are not isolated to the health care setting. The results are potentially relevant to any organization attempting to use outcomes as a tool for accountability. However, their ability to use and apply the results is likely to come from their credibility, which can be addressed by overcoming the issues of validity.

Where positivist research attempts to identify the underlying “truth” about a situation, much qualitative research is about interpretations and accounts of events (Maxwell 2002). This means that there is no absolute truth or reality to which the accounts observed can be compared in order to validate them. However, within qualitative research, there are ways of assessing the accounts that are not dependent on the account itself, but relate to things that the account is about. There are a number of categories of validity that are relevant to qualitative researchers; descriptive validity, interpretive validity, theoretical validity and generalisability (Maxwell 2002). Whilst these categories are not mutually exclusive, and are themselves open to interpretation, they do provide a framework in which the validity of the research can be considered.

Descriptive validity

Descriptive validity refers to the accuracy of the reporting of accounts or events involved in the research. At this level, the researcher is concerned with the accuracy of the reporting of the actions, rather than interpreting these events. Where possible, accounts will be verifiable with access to the appropriate data. For instance, a tape recording of an interview can provide evidence for a particular

quote. Where questions of definition arise, Maxwell argues that this changes the type of validity from descriptive to theoretical validity (Maxwell 2002).

Descriptive validity is upheld in this study through the endorsement of the final reports presented to the relevant committees at both ACT Community Care and the Department of Veterans' Affairs (ACT Quality and Safety Forum, 2001; Department of Veterans' Affairs Health Outcomes Steering Committee, 2001).

Interpretive validity

Interpretive validity is an important component of qualitative research because it is concerned with what events, behaviours or actions mean to the people who engage with them. Interpretive validity must be constructed in the terms of the people to whom it has meaning, by for instance, using the language of those people. However there is no way of externally verifying that the interpretation is 'true'.

I have attempted to ensure interpretive validity by presenting the views of a range of stakeholders within the two case studies, including purchasers, managers, providers and service users. Both case studies draw on diverse data sources including survey results, observation, file audit and archival information to facilitate triangulation. The investigation of two case studies, rather than single case study design strengthens the analytical component of the research.

Theoretical validity

Theoretical validity goes beyond describing events or situations, and adds the dimension of explanation and interpretation, or theory development, to the cases. This includes the concepts or categories used to describe the components of the cases as well as the relationships that are perceived to exist between these components (Maxwell 2002). Theoretical validity considers the validity of the concepts employed and the validity of the way that the relationships are described or interpreted. These concepts have also been called "construct validity" and "internal or causal validity" (Yin 1994).

Different approaches have been suggested to ensure theoretical validity. Maxwell suggests that theoretical validity can be addressed by relying on the consensus of the descriptions or interpretations amongst the community concerned with the research. Yin (1994) supports this approach for construct validity by proposing that key informants review the draft case study. Yin also proposes the use of multiple sources of evidence, or a chain of evidence to lead to the suggested findings. Internal validity can be addressed through different types of analytic approaches,

such as ‘pattern-matching’, ‘convergent evidence’ and consideration of rival explanations.

Within this thesis, I have used the concepts of accountability and health outcomes as the units of description, and then examined the relationships that exist within and across these components within the two case studies. Reports arising from each case study were presented to the key stakeholders in both organizations for verification. Internal validity is less easily addressed in the context of this research. I have used the supporting literature with examples from other organizations to look at convergent evidence.

Generalisability

One of the most common criticisms of case study methodology is the difficulty generalising the results to other settings (Punch 1994; Yin 1994). Quantitative research uses large samples and probabilistic generalisability, however qualitative research rarely has these tools available (Schofield 2002). Qualitative researchers are divided about the need for generalisability of case study research. Stake argues that in case study research “the search for particularity competes with the search for generalisability” (p439), in that the unique components intrinsic in each case are in themselves worthy of study (Stake 2000). Indeed, some qualitative researchers reject the goal of generalisability, believing that every topic has its own “logic, sense of order, structure and meaning” (Denzin 1983). Cronbach argues that attempts to produce laws that are universally applicable is not a useful goal for any type of research (Schofield 2002).

The classic interpretation of generalisability is the extent to which an effect or outcome can be applied to a range of “populations, settings, treatment variables, and measurement variables” (Campbell and Stanley 1963 in (Schofield 2002). Within this is the notion of replicability, which considers whether the results of the research would be reproducible in the targets to which one wants to generalise (Schofield 2002). Case studies generally involve unique and non-recurring phenomena, hence they cannot be verified through replication (Yeager 1998). Replication of this research is not necessary to validate the findings. This thesis generates theory around the application of health outcomes to health service accountability which can be tested in other settings without those organisations necessarily having to apply the same research approach, nor draw the same conclusions.

Becker in (Maxwell 2002) suggests that “generalisation in qualitative research usually takes place through the development of a theory that not only makes sense

of the particular persons or situations studies, but also shows how the same process, in different situations, can lead to different results p240". Thus generalisability in this case is an assumption that theory will be useful to make sense of similar events, "rather than on an explicit sampling process and the drawing of conclusions about a specified person through statistical inference".

The dual approach taken within the analysis supports the theoretical generalisability of the results. The comparison of the two case study sites with the six published examples highlights barriers that are likely to emerge across a range of different settings in which the health outcomes approach is employed. Similarly, the learning from the two case study sites is likely to be of relevance to other organizations attempting to implement the approach.

The factors that may limit the ability to apply these results in other settings include variations in the management and funding structures of particular organisations, the types of staff employed, the information systems used by other organizations and possibly, the type of population served.

3.1.7 Limitations of the methodology

Case study methodology has been criticised from a number of perspectives. However many critics attempt to apply the parameters of quantitative research to qualitative studies, including the limited ability to generalise from the results, the use of qualitative data, the inability to replicate a case study and the potential for researcher bias.

Researcher subjectivity has the potential to introduce bias . Both the strengths and weaknesses of this research arise from my roles as both a researcher and participant observer. Case study methodology employs the researcher as a tool, hence is a description of the researcher's interpretation of events. The very act of undertaking case study analysis can influence the results of a subject under study. However, researcher reflexivity is acknowledged as a valuable component of qualitative research as encapsulated by Stake

"Qualitative case study is characterised by researchers spending extended time, on site, personally in contact with activities and operations of the case, reflecting, revising meanings of what is going on" (Stake 2000).

Where possible, I have aimed to reduce the introduction of my own bias by verifying reports with key personnel within each organisation. The limitation of this approach has potentially been my inability to distance myself from the subjects of the research. I have also been aware of the risks of reporting information that may be sensitive or damaging to either organisation, or myself. No information has

knowingly been withheld because of its sensitive nature. A further strength of the comparison of the two case study sites is the differences in my involvement with each. Within ACT Community Care, I was employed to introduce the health outcomes approach, in which I obviously had some influence over the result. The Department of Veterans' Affairs employed the University of South Australia to implement their health outcomes approach. I had no influence over the model they chose to employ, but was involved instead in its evaluation.

The information I chose to include to describe each 'case' obviously represents only a small component of each organization. However I have selected the information that I perceived to be most pertinent to the understanding of the health outcomes approach in each case. The selection of that information was guided by my direct involvement within each organization. A different researcher may have represented different information and in different ways.

3.2 Conclusion

This chapter has described the case study research approach used to examine the use of health outcomes by ACT Community Care and the Department of Veterans' Affairs. The details of the methods employed by each case are included within the case studies in the subsequent chapters.

4 Case study I: ACT Community Care

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4.1 Introduction

This chapter presents the first of two case studies, describing the move by ACT Community Care, a health service providing organisation, to identify health outcomes that could be used in purchasing contracts with the ACT Department of Health and Community Care (the purchaser).

I introduce the case study with a discussion of the organisational structure of ACT Community Care. This section illustrates both the internal accountability hierarchy of ACT Community Care as well as the purchasing relationship between ACT Community Care and the ACT Health and Community Care Services Board. To avoid future confusion between the titles of ACT Community Care and the purchaser, the ACT Department of Health and Community Care, I will use the acronym DHCC to describe the latter.

The second part of the chapter describes the investigation of a health outcomes approach that could be used by ACT Community Care to address the needs of the purchaser. The resulting model proposed that health service processes, not outcomes should be used for provider accountability. Ideally, process indicators would serve as a proxy for the health outcomes of patients. A suite of health outcomes projects from across the organisation were investigated to trial the model. Vignettes from six of these projects are used to illustrate specific issues around the implementation of the outcomes approach within ACT Community Care.

Two key documents form the basis of this case study. The first is *An Outcomes Framework for ACT Community Care*, which was my original proposal for the implementation of the outcomes approach by ACT Community Care. The second is my final report to ACT Community Care, which describes in detail the methodology and results of each of the health outcomes projects. The two documents form Appendices A and B respectively. For the purpose of this chapter, I have synthesised what I perceived to be the most important components of the two documents to address the research problem.

This case study highlights two key points about the use of health outcomes in health service accountability. First, organisational systems are vital to the collection and reporting of health outcomes data. Secondly, it illustrates a number of practical considerations around the implementation of the outcomes approach at the clinical level, such as the selection of an appropriate outcome measures and the responses of clinicians to the use of measurement tools.

4.2 The organisational structure of ACT Community Care

ACT Community Care is the major provider of community based health and disability services within the ACT (ACT Community Care 1999). It provides services to people of the ACT and surrounding regions through six programs; Alcohol and Drug, Child, Youth and Women's Health Program, Dental Health Program, Disability Program, Integrated Health Care Program and the Rehabilitation Program. Additionally, ACT Community Care provides services to Lower Jindalee nursing home and Corrections Health. The latter two services were not included in the health outcomes project because they represent a relatively small component of the overall service provision by ACT Community Care. The diversity of programs, and therefore health service providers underpins the difficulty using the classification 'allied health' to describe all of the health service providers. The services delivered by each health service program are summarised in Table 4.1. Over 1000 staff deliver services from approximately seventy different sites across the ACT. A more detailed break down of the types of services and the service providers employed within each program is presented in Appendix B.

Each program employs a range of health service providers who deliver a variety of services to defined target groups. For example, the Alcohol and Drug Program employs doctors, case workers and nurses to deliver interventions designed to minimise the potential harm arising from alcohol and drug use. The interventions include methadone dispensing, withdrawal services, medical services, counseling and case management. As well, the Alcohol and Drug program is responsible for the provision of information and support for other service providers in the community whose clients may be at some form of risk from alcohol or drug use. In contrast, the staff employed by the Rehabilitation Program includes physiotherapists, speech pathologists, psychologists, occupational therapists and exercise physiologists. They provide intensive rehabilitative services within the hospital, some outpatient care, including vocational rehabilitation and driver retraining and, the provision of equipment and aids. I have used these two examples to highlight the widely varied roles of the health service programs, and the difficulty classifying all of these providers under the single label of allied health.

Table 4.1: ACT Community Care programs and service descriptions (ACT Community Care 1999)

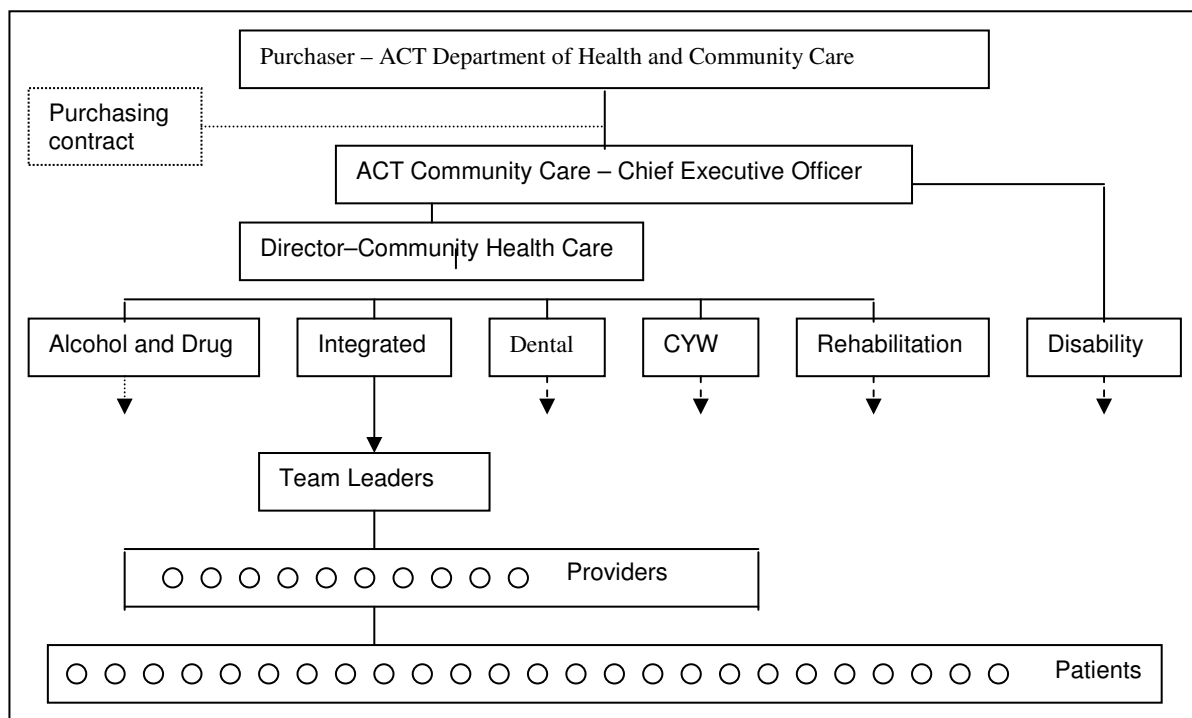
Program	Description
Alcohol and Drug Program (ADP)	The Alcohol and Drug Program aims to minimise the harm related to alcohol and other drug use in the community through information provision, assessment, brief intervention, counselling, referral, education, training, community projects, professional projects, a help line, supervised withdrawal and public methadone treatment.
Child, Youth and Women's Program (CYF)	Early identification and prevention of health problems, assessment and interventions, monitoring of children's growth and development, health promotion and education. Services include immunisation, breast and cervical screening, women's health service and new parent support groups.
Dental Health Program	Promotes oral health, prevention and treatment of oral disease and provision of dental prostheses. Services are provided in health centres, primary schools and The Canberra Hospital.
Disability Program	Aims to increase the quality of life and inclusion of people with disabilities in the ACT through the provision of four main service types; accommodation support, respite care, allied health and recreation services. Services are underpinned by a comprehensive 'Individual Planning' process which is developed with client and family collaboration with a key-worker from the Disability Program.
Integrated Health Care Program (IHCP)	Multidisciplinary services provided in the home, hospital and community based clinical settings for people with acute, post-acute, chronic and terminal health problems associated with disability and aging. The emphasis of care provision is on customer education and rehabilitation to encourage customers to take responsibility for managing their own health problems. A single point of entry is available through the Intake and Assessment Unit and Aged Care Assessment Team (ACAT) functions. The IHCP coordinates the ACT Diabetes Service.
Rehabilitation Program	The rehabilitation program provides a range of allied health and vocational support services to inpatients in The Canberra Hospital and community based outpatients. The aim of the program is to optimise the functional status of clients following an acute episode of care in The Canberra Hospital.

ACT Community Care was established in its current form as a result of reforms to the ACT Public Service Act in 1996, which saw the administrative separation of ACT Community Care (a health service provider), from the purchaser, the DHCC. ACT Community Care and The Canberra Hospital became part of a statutory authority known as the ACT Health and Community Care Services Board (established under the Health Services Act 1996). The Board employs a chief executive officer to manage ACT Community Care.

The DHCC is the major purchaser of services from ACT Community Care, accounting for 87% of total revenue in 1998-99 financial year (ACT Community Care 1999). Therefore, most of the activities of ACT Community Care as a health care providing organisation are stipulated by the contractual agreements with the DHCC through the ACT Community Care Services Board.

The accountability structure of ACT Community Care is illustrated in Figure 4.1. Health service providers from each program deliver health or disability services to their clients. Providers are in turn responsible directly to their team leader. Each allied health discipline also has a professional leader. *Team* leaders are responsible for health service providers across a range of disciplines, whereas *professional* leaders manage professional issues for their discipline only. For instance, in the Integrated Health Care Program, a multi-disciplinary team leader will be responsible for a wide range of allied health professionals (podiatrists, social workers, physiotherapists, occupational therapists, aged day care workers) and nurses. Professional leaders, on the other hand, deal with discipline specific issues such as the clinical management of particular conditions and best practice within their discipline.

Figure 4.1: The accountability relationships within ACT Community Care



The team leaders are the key individuals in the hierarchical reporting to the purchaser. Each program could have a number of teams and therefore a number of team leaders. Most teams are organised according to geographic regions. For example, the Alcohol and Drug Program has two regional teams, central (based in Canberra City) and Woden, (based at The Canberra Hospital).

The team leaders are directly responsible to their program directors. All the directors, with the exception of the Disability director, report to the Director for Primary Health Care. The Director of Community Care then reports to the Chief Executive Officer on program issues. The Disability Program is accountable directly to the Chief Executive Officer, as they do not fall under the domain of

primary health care. The Chief Executive Officer is responsible to the ACT Health and Community Care Services Board for delivery of the contracted outputs and outcomes across all the programs. Figure 4.1 uses the example of the Integrated Health Care Program to illustrate the responsibility of the provider to team leader and then patient or client level. However all the programs of ACT Community Care employ similar organisational structures.

4.3 The proposed adoption of health outcomes

The following quote is from *Setting the Agenda*, which outlines the vision for health service delivery in the ACT.

Increasingly the Department should be purchasing services only where there is evidence of good clinical outcomes and should be looking to cease purchasing services where there is little or no evidence of better health outcomes (ACT Health 1998:36)

So, rather than the historical focus on throughput as a measure of health service accountability, ACT Community Care was required to move towards the inclusion of health outcomes in their purchasing contracts. This requirement is reflected in the purchase contract;

This contract... Seeks to support a change of focus in purchasing and accountability processes towards the achievement of agreed service outputs at nationally comparable prices and, most importantly, agreed customer outcomes. (p1 purchase contract between ACT Community Care and the Department (ACT Department of Health and Community Care 2000).

These statements set out to change the entire basis of health service accountability in the ACT. However, there was no guidance as to what health outcomes were important or how they were to be measured or reported. The purchaser relied on the knowledge within ACT Community Care of their services and health service structures for the identification of health outcomes that could be used in purchasing contracts.

4.4 The health outcomes approach

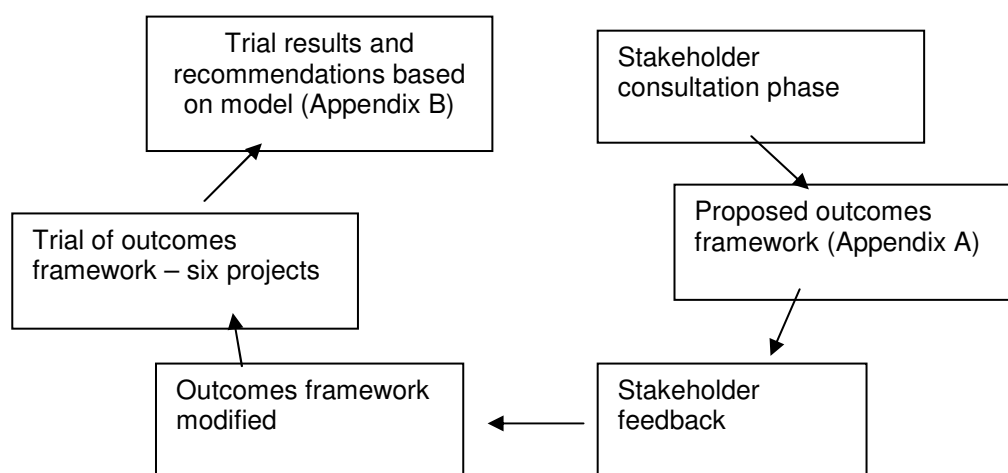
My involvement with the project started in November, 1998 when I was employed by ACT Community Care to identify health outcome measures that could be incorporated into the purchasing contract. The project was overseen by the ACT Community Care Quality Improvement Council (QIC). Membership of the council

included the chief executive officer (chair), executives, program directors and representatives of each health service program. The QIC meets monthly.

After six months to develop a framework for the collection of health outcomes data, the project was extended for two years to trial the framework. The project ended in July 2001.

The action research approach to the development and testing of the framework is illustrated in Figure 4.2.

Figure 4.2: Approach to the health outcomes project



4.4.1 Consultation phase

The consultation phase included a review of the literature (which revealed few existing applications of health outcomes in community health settings), discussions with other agencies, and formal meetings with health service managers and providers from ACT Community Care. The main points arising from the consultation phase are discussed below and summarised in Table 4.2.

Table 4.2: Summary of the main points arising from the consultation phase

<ul style="list-style-type: none"> ▪ There has been little research into the use of health outcomes within Australian community health services ▪ Community health service providers are interested in pursuing the concepts of health outcomes measurement and believe that outcomes research is important to justify their ongoing sustainability. ▪ Some allied health disciplines do use outcome measures within their clinical consultation, but the results are not aggregated and they are not used for reporting. ▪ Each health service program and each discipline delivers a wide range of services with very different goals and benefits for the clients. Thus no uniform measure of outcome is likely to be applicable either for an entire program, let alone a single discipline. ▪ A number of clients receive services from multi-disciplinary teams, rather than single providers. It was unclear whether to focus on the outcomes of the care provided by each discipline, or the outcomes for the client as a whole. ▪ There are a variety of service types delivered within ACT Community Care. Some disciplines have clear definitions of their service type and clearly mapped processes in the form of 'pathways' or 'standardised care plans' (eg most allied health except social work), others do not (Disability and Alcohol and Drug).

I contacted a number of Australian agencies about their proposed or actual use of health outcomes, including New South Wales Health, VicHealth, Queensland Health, NT Health, allied health professional associations and the Department of Veterans' Affairs. I also contacted Mrs Jan Sansoni at the Australian Health Outcomes Collaboration (AHOC). The Australian Health Outcomes Collaboration provides resources about health outcome instruments to health service researchers and clinicians as well as a database that records a range of Australia health outcomes projects.

The feedback from other organisations indicated that there was no precedent to follow in the implementation of the outcomes approach. None of these organisations had a framework for the collection of health outcomes data. In fact, a result of these contacts was that in many cases *I* was perceived to be an expert on community health outcomes and was asked to deliver workshops on the work that I had undertaken to date. For instance, the work with the Department of Veterans' Affairs arose as a result of my contacting them to ask for information about their nursing health outcomes project. My contact with AHOC resulted in the collaborative delivery of a number workshops on health outcomes in community health services workshops in Canberra and Melbourne for many of the organisations listed above. The workshops, in turn, provided me with the benefit of extensive consultation with health service providers from a range of public and private agencies in clinical and managerial roles. Still, no one appeared to have a solution to the 'health outcomes problem', although there was considerable interest in the area.

Consultation within ACT Community Care included liaison with the health program directors, team managers, senior health professionals and health service providers. The health service providers included physiotherapists, occupational therapists, psychologists, nurses, social workers, podiatrists, speech pathologists, alcohol and drug case managers, managers from the disability program and dieticians from both ACT Community Care and the Canberra Hospital. The consultation was undertaken in a variety of forms, but always included discussions with the program director, generally with their team leaders and/or senior health professionals. The team leaders and senior health professionals discussed the concepts with their own staff. I then undertook a brief presentation to groups of health service providers who, in turn, provided feedback about the issues arising around health outcomes in their own areas.

In the discussions, many providers were unfamiliar with the concept of health outcomes. A few were aware that they were expected to be accountable on the

basis of the health outcomes of their clients, although none knew how this could be achieved. Some providers had the expectation that if they could not demonstrate the effectiveness of their health service, it would threaten the sustainability of their discipline.

Health service providers from a range of disciplines were asked what, if any, health outcome measures they currently used. Only physiotherapists and nurses routinely incorporated health outcomes into aspects of their care. Physiotherapists have a range of functional status measures, such as 'timed 10 metre walk' and 'time to up and go' which they use before, and then at various stages during an intervention to determine the patient's progress over time (van Herk, Arendzen et al. 1998). Nurses are required to report in the client file on a series of educational and self-care goals for most patients across a variety of interventions. However, as later results demonstrate, adherence to these requirements is limited. Where outcomes data were collected, they were used as an indicator of the effectiveness of care for each individual client by the health service provider. The information normally remained in the client file and was not aggregated. The lack of aggregation of data meant that no systematic health outcomes reporting took place.

Whilst there were a number of quantifiable outcome measures used by nurses and physiotherapists, each intervention had a different outcome - and there were numerous interventions within each discipline. The physiotherapists and nurses identified twenty and thirty-four common interventions within each discipline respectively. This meant that no single outcome measure was likely to be useful within a single discipline, let alone across programs. For example, the outcomes of neck pain management are quite different to the outcomes of continence therapy, but both are undertaken by physiotherapists. Nursing interventions include inserting eye-drops, post-operative breast care and giving insulin injections, none of which have common outcomes. Even programs with a relatively narrow focus, such as the Dental Program deliver a wide range of services from school based oral health education and health promotion to dental surgery and dentures. The diversity of health service types highlighted the difficulty identifying a single outcome measure within disciplines or programs. It also flagged the importance of being able to define exactly what health service was being delivered so that the outcomes can be recorded against an intervention.

Many clients receive services from multi-disciplinary teams. For example, someone who is recently released from hospital after a fall may require occupational therapy for home modifications, physiotherapy to improve their mobility, podiatry if they are unable to reach their feet, home nursing to dress a

post-operative wound, personal care to help with showering and dressing as well as Meals on Wheels. These services could be seen to have two goals overall; to improve the physical function of the client so they are more independent in their home, and secondly, to support them until they become physically independent. However, each component of the intervention will contribute to the achievement of these goals in a unique way.

Health service providers are interested in knowing whether their own intervention is effective at, say, improving the hip range of motion of the client, or preventing further falls. But it is also important that the overall client goals are achieved. In other words, each component of care will have distinct goals which will contribute to the overall outcomes for the client. Health service providers wanted to know whether they should report on the goals and outcomes of each component of the intervention or only the overall outcomes for the client. Each discipline delivers a wide range of services with different goals. One client may receive services from *many* disciplines that are designed to lead to a *single* goal. These issues raise complex questions about which outcomes should be reported, to whom and how.

It did appear, however, that some interventions, such as wound management and continence management had clearly defined processes that could form the basis of measurement and monitoring. For example, the nurses, physiotherapists and podiatrists have developed 'standard care plans' that guide the health service provider through a set of clear processes that should lead to a desired outcome (an example of a wound care plan is included in Appendix B). The nurses have thirty-four standard care plans, including diabetes management, wound care and post-operative breast care. Podiatrists developed standard care plans for common interventions such as basic foot care, nail surgery and orthotic management.

The consultation phase of the project provided few answers, and many questions about the introduction of the outcomes approach. It was clear at this stage that not one single outcome measure would be appropriate within a single discipline, or even across a program, let alone across the whole organisation.

4.4.2 Development of a 'best practice' framework for the measurement of health outcomes

Health outcomes are dependent on a number of factors, many that are external to the delivery of health services themselves. Therefore, holding the health service provider responsible for the production of health outcomes does not necessarily illustrate the effectiveness of the intervention. However, based on the principles of evidence based medicine, the allied health service provider should be accountable

for the delivery of the processes of care that are on best practice. The use of standard care plans and clinical pathways implied that some services had a 'best practice' way of delivering health care within ACT Community Care. This notion is reinforced by the growth of both the quality and the evidence based medicine movements which revolve around the adoption of processes that are based on rigorous research, and the minimising practice variations through clinical guidelines to optimise health outcomes (Grimshaw and Hutchinson 1995).

The *Health Outcomes Framework* (Appendix B) that I proposed for ACT Community Care relied on the existence of systems of best practice for some health services, with the expectation that other health service providers would be able to identify similar standards for the delivery of their services.

The framework was based on the Donabedian framework that links structures, processes and outcomes. The intention of the project was that processes could be standardised through the use of clinical pathways or standard care plans. Extrapolation from this notion was the belief that if standardised processes were adhered to, they would serve as a proxy for the achievement of the health outcome. Obviously, individual patient factors needed to be taken into account, such as comorbidities, client age and socio-demographic factors. I assumed that structural issues would remain relatively stable unless there were major management or policy changes.

4.4.3 Provider feedback on the framework

The framework was circulated to the programs for provider feedback. The framework was based on the identification of best practice processes for a range of health services. In reality, many health services could not actually develop best practice processes for health service delivery. For example, the Disability Program and the Alcohol and Drug program provide services whose primary roles are to optimise participation of their clients. The way the service is delivered is dependent on the needs of the individual patient, the available infrastructure to support that patient, and the capacity of the health service provider to address the needs of the patient. If there were reproducible processes, they were normally based on the assessment of the client, or the way they moved through the health service, rather than the way the treatment was delivered. For instance, all clients who enter the Alcohol and Drug Program undergo a common assessment which is used to identify their health service needs, current health status and the urgency of the treatment. As a result of this assessment, they may be referred to counseling. But what happens within the counseling intervention is dependent on the counsellor they are referred to and not guided by any formal protocols.

Where best practice processes did exist, there was little published evidence to support them, therefore it was not clear whether the intervention would actually lead to the desired outcome (Harvey 1996). Indeed, the providers reported that the care plans were based more on their own experience than the use of literature.

Social workers had particular difficulty with the ‘reductionist’ nature of the framework. Additionally, the QIC members were concerned about the amount of information I was trying to access because of the logistical difficulties collecting such a large amount of data and the burden of data collection on providers.

Obviously, all health service types were not the same. Health service processes may help define what happens in the intervention, but do not necessarily impact on the outcomes of the patient. So, instead of viewing health services homogeneously, I developed a list of the different types of services delivered by ACT Community Care and the likely processes and outcomes of each (Table 4.3).

4.4.4 Development of a modified approach

The following table was developed to encompass all of the health service types delivered by ACT Community Care and illustrate the variety of process and outcome indicators which would be likely for each. The framework was then re-presented to each program in the context of the following flow chart. Breaking down the framework to acknowledge the continuum of health service types, rather than simply seeing all health services from within a homogeneous framework lead to widespread acceptance of the framework, and increased understanding of what the project was trying to achieve.

The framework described in Table 4.3 was then used as the basis to identify interventions within ACT Community Care for the measurement of outcomes and processes. These fields have subsequently been amalgamated into four main groups; restorative services, rehabilitative, integrative and preventative. These groups are based on the International Classification of Impairment, Disability and Handicap (ICIDH alpha version) in which an impairment affects the organ or tissue level – for example, diabetes. The disability is the impact of the impairment on the ability of the individual to function. For example, the person with diabetes may have diabetic retinopathy, leading to the ‘disability’ of blindness. The handicap is the way that the blindness impacts on the functioning of the person within their environment, for instance, the prevention of driving¹.

¹ The World Health Organisation has recently released the beta version of the ICIDH which eliminates the negative connotations associated with the terms ‘disability’ and ‘handicap’, replacing them with “limitations to activity and participation”. I have found this model less easily applicable to

Table 4.3: Continuum of health service types within ACT Community Care

Intervention type	Example	Process Indicator	Outcomes
Prevention	Oral hygiene Immunization	Exposure to target group	Reduced incidence of disease
Screening	Cervical screening	Rates of screening	Increased rates of detection
Assessment	Aged Care Assessment Comprehensive Assessment	Appropriate referrals	Achievement of goals
Restoration	Dental Wound management Nail surgery	Adherence to best practice (clinical pathway)	Restoration of integrity
Rehabilitation	Continence Physiotherapy	Best practice, multi-disciplinary contact	Restoration of function
Integration	Disability services	Identification of client goals / capacity	Optimal client integration
Maintenance / Support	Insulin injections Foot care Palliative care	Adherence to pathway	Maintenance of health state, prevention of complications
Equipment / home modification	Seating Orthoses Dentures	Dispensing appropriate equipment	Achievement of client goals
Information distribution	Brochures Phone services	Provision of timely, appropriate and accurate information.	Raised awareness
Care-continuum clinical pathways	Footpath Myocardial infarction	Health service use	Improved health status

4.5 Testing the modified framework

4.5.1 Data collection

The data collection process involved identifying a project. I then consulted with providers and in some cases patients, to define what the processes and outcomes of care should be, and ways of measuring these. At least one key person was identified within each program to act as a contact point for staff queries, to raise participation rates in the projects and aid my understanding of the content area of the project. Staff were then trained in the outcomes approach that would apply to their service type. At the end of each project, I met with the staff involved to discuss the implications of the project on their practice.

the continuum of health service types, so for the purpose of this thesis, have continued to use the concepts contained within the alpha version. The categories are defined in Appendix B.

I made a number of attempts to develop a standardised proforma for the collection of data needed to measure and report on health outcomes across all of the projects. The forms were designed to document client health status at admission and discharge, the intervention details and individual client information. The standardised proforma was not accepted in any format because managers were concerned either about the duplication which would occur (ie, the some providers already collected this information in another format), the inapplicability of certain items to their service (eg ICD-10 codes to social work) or the increased workload on providers.

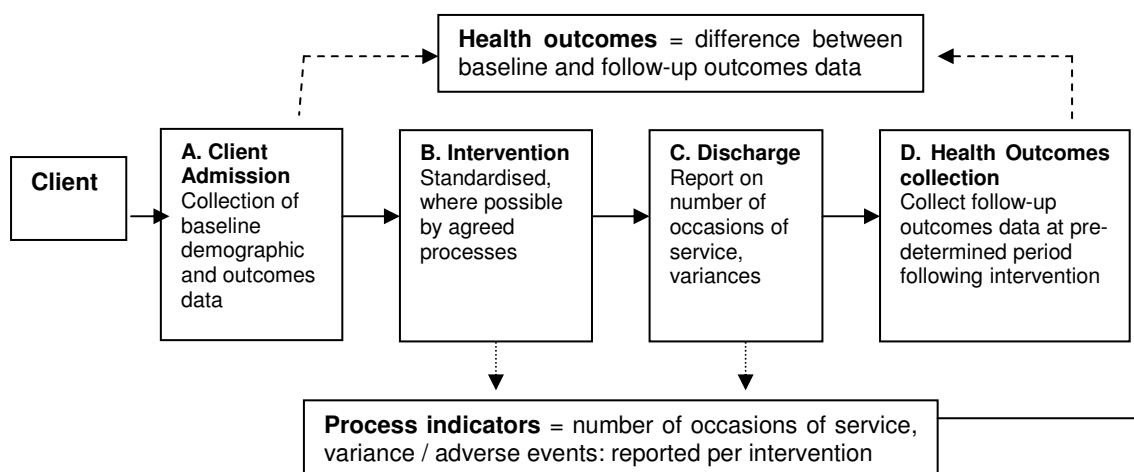
As a result of the difficulties accessing consistent information, I attempted to collect standard data from across the projects, but using different methods of data collection. Figure 4.3 provides an overview of the approach to collecting data. The data sources included file audit; telephone interviews; face to face interviews; mailed questionnaires; provider distributed questionnaires; focus groups; searches of databases for discharge data and service specific details (eg costs, occasions of service). Whilst this reduced the ability for me to make comparisons between different interventions, this approach enabled me to investigate a range of methods of accessing the outcomes data. Demographic data were collected using a standardised proforma across all projects except where file audit was the main source of data. The strengths and limitations of the approaches are discussed within the reports for each case study.

The following steps were undertaken to collect the outcomes and process data.

- (a) At admission, and once the intervention or interventions have been determined, demographic data and baseline health outcomes data are collected for that client.
- (b) The intervention is defined and undertaken.
- (c) At completion of the intervention, the client is discharged from the service. Client discharge may precede achievement of health outcomes for some interventions. At discharge, the health service provider will report all 'process indicators' on the client discharge form.
- (d) Health outcomes are measured at a second point in time to enable measurement of change in health status. If the final outcome is not achieved at client discharge, the outcomes were determined by contacting the client after pre-determined period of time has elapsed (by mail or telephone).

Figure 4.3: Proposed approach to outcomes data collection





The collection of consistent information from across the organisation was further hampered by the lack of an organisation wide, and in many cases, program wide, information system. This meant that it was not possible to determine at any time who was receiving particular services, the reasons for the client receiving services, the actual types of service/s provided, or the provider responsible for delivering the service. The computerised databases that did exist in each program provided highly variable levels of detail and quality of information.

In order to be able to link a health outcome to a particular diagnosis or intervention, I investigated a range of allied and community health classification systems including International Classification of Disease, Version 10 (ICD-10); National Allied Health Casemix Committee Indicators for Intervention (IFIs); the Department of Veterans' Affairs item numbers; and the Community Health Information System. The DVA system did not contain sufficient detail, and the other systems were still in pre-introductory or developmental stages at the time of implementing the projects.

4.5.2 The projects

The priorities for the selection of projects within each program were determined by program directors in consultation with their own quality improvement teams or middle managers. Where possible a project was selected to represent each 'intervention type' and each program, however this was not always possible.

Table 4.4 summarises the projects that were considered, or commenced as part of the ACT Community Care health outcomes project. One of the projects (paediatric dental outcomes) was investigated, but did not commence for reasons that are described within the vignette. However as this project has relevance to the collection of outcomes data, it was included as vignette.

Table 4.4: Summary of health outcomes projects

<i>Project</i>	<i>Status</i>	<i>Service Type</i>	<i>Data sources</i>	<i>Processes</i>	<i>Outcomes</i>
Paediatric dental outcomes	Did not commence	Rehabilitative	N/A	Treatment of dental caries under sedation or anaesthetic for children under the age of 5 years	Could not be determined
Innersole pilot study	Complete	Rehabilitative	Patient completed questionnaire File audit	Number of occasions of service Adherence to clinical pathway	Change in foot health status Innersole specific questions
Alcohol and Drug Program	Complete	Integrative	File audit	Rates of adherence to Client Planning process	Achievement of client goals
IAU project	Complete	Integrative	Interviewer completed questionnaire – phone and face to face File audit Focus groups	% Receipt of services to which client was referred	Achievement of client goals Health related quality of life using the Dartmouth COOP charts
Nutrition Screening tool	Complete	Preventative	Completion of nutrition screening tool by providers. File audit.	Completion of the nutrition screening tool. Providing clients with an information booklet.	Age of introduction of solids to infants. Texture and variety of food at six months
Wound outcomes project	Complete	Restorative	File audit of all clients discharged from wound care.	Adherence to the DVA Wound Clinical Pathway.	Duration of wound healing. Cost of dressings used.
Footpath project	Complete	Preventative	Patient completed questionnaire, file audit.	Adherence to the Footpath clinical pathway.	Foot health status, lower limb knowledge and self care practices.

4.5.3 Project results

Detailed reports of each project are included in the final report (Appendix C), so for the purpose of this chapter, I will present six of the projects as vignettes to highlight specific issues around the implementation of the outcomes approach. The appendices include copies of the questionnaires used and any statistical analyses undertaken.

Every project that commenced or was attempted highlighted new issues for the collection of health outcomes data in a clinical setting. The lessons learnt from previous projects were applied to subsequent projects, only to highlight a new difficulty with the implementation of the model.

At the same time that this project was being implemented, all of the ACT Community Care health service programs except the Dental and Disability Programs were undergoing some form of restructure. The restructures meant that many key personnel (directors and senior health professionals) changed positions

or left the organization. The types and methods of health service delivery were changing within some programs so that in some cases, projects were terminated because the service was no longer delivered by the same team within the organization. In other cases, projects were delayed by up to six months whilst staff were recruited and new systems were implemented. In one project (the Intake and Assessment Unit outcomes study) the coordinating staff member changed positions and the collection of outcomes data ceased almost immediately. This highlights the need for structural or organisational stability to introduce a health outcomes project.

The six vignettes described are on the outcomes investigated for paediatric dentistry, podiatry innersoles, the Alcohol and Drug Program client planning process, wound management, the Intake and Assessment Unit comprehensive assessment tool and the nutrition screening tool. The results and implications of each project are discussed in the context of the vignette.

Vignette One: Paediatric dental outcomes – Dental Program

The paediatric dental outcome project did not commence. However the narrative illustrates some of the difficulties in both identifying appropriate health outcome measures, and determining a reasonable time frame in which the outcomes can be measured.

Children under the age of five with dental caries generally require heavy sedation or a general anaesthetic for any oral procedure. This project was selected because the senior dentist was interested in the outcomes of the intervention for the children. From my perspective, it appeared to be a clearly defined intervention with relatively reproducible processes – oral surgery under sedation or anaesthesia, for which the outcome was the restoration of oral function through the treatment of dental caries.

To identify the outcomes of the procedure, I consulted with the ACT Community Care dentist, the only paediatric dentist in Canberra and dentists at the New Children's Hospital in Westmead, Sydney. I watched a number of dental procedures on children who were sedated or anaesthetised and spoke with dentists, children and parents about their experiences and expectations of the procedures.

It became evident that there were no useful outcome measures that could be measured within the time period of the project. The obvious outcomes were the cessation of pain and restoration of oral function in the children. However, according to the dentists, few children actually report any pain with their caries. Oral function can be measured in adults using the Oral Health Impact Profile, an

instrument that asks about the impact of mouth problems on eating and swallowing, physical appearance, social activities and pain (Slade and Spencer 1994). These concepts were largely inappropriate for children. Some literature links oral health status of children to growth percentiles, however the authors did not eliminate the confounding influence of social factors on dental caries (Acs, Shulman et al. 1999). Parents brought their children to the service for the treatment of dental caries, which were often asymptomatic. The dentists reported that the important outcomes of oral health status at age five were the oral functioning of the child once they had their secondary dentition at around the age of twelve. No prospective studies link dental interventions at age five with oral health outcomes at age twelve and this was certainly outside the scope of this project. Short term indicators, such as the recurrence of dental caries over a twelve month period, whilst useful for the dental service, relate more to dental education than the performance of dental surgery.

The inability to determine, or measure appropriate outcomes meant that the project did not commence.

This project highlighted the difficulty identifying clear health outcome measures specifically for this intervention. Psychometric concepts developed for adults are not appropriate for children, so these cannot be used for the evaluation of child dental health outcomes. As many of the children were asymptomatic, it may have been appropriate to ascertain the parent's perspective, highlighting the question of 'whose outcomes' are important. However, there were no consistent and meaningful outcomes that a parent could report in this case.

Another point highlighted in this project was the difficulty identifying outcome measures that could be collected in a suitable time period for reporting. It is not feasible to wait until a five-year-old turns twelve to measure the health service outcomes of an intervention.

Vignette Two: Innersole study – Integrated Health Care Program

Innersoles are dispensed by podiatrists for people with pressure areas under their feet to reduce pain, improve function and ideally, reduce the amount of ongoing podiatric care required. The innersole project used a validated, disease specific, health status questionnaire to measure the health outcomes of the intervention (Nancarrow 2001). The innersole project was used to pilot study the system of health outcomes data collection and management and to test the relationship between process and outcome measures. This project was selected because it had well-defined processes through the use of a clinical pathway. Additionally it was a

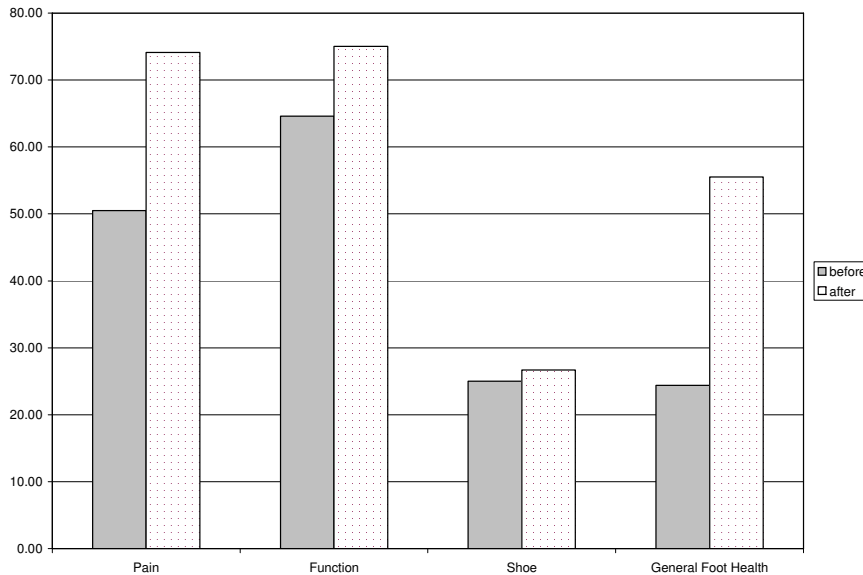
relatively high volume intervention (approximately 30 people per month), indicating that there should be a reasonable response rate in a short period.

Podiatrists were asked to give a Foot Health Status Questionnaire to all people requiring innersoles between October, 1999 and February 2000. All patients who received innersoles during the study period were eligible to participate. Clients were then followed up by mail three months later. A retrospective file audit was used to determine the numbers of occasions of service after the receipt of innersoles. There was no way of systematically identifying clients who receive specific interventions, such as innersoles. Thus, the senior podiatrist kept a paper record of clients who received innersoles during the intervention period.

Only twenty-seven clients out of a potential 150 were recruited into the trial by podiatrists and post-intervention follow-up was achieved with 20 of those clients after extensive mail and telephone contact. No client refused to participate in the study, however podiatrists reported that they either forgot to ask the clients to participate or did not have enough time. In some cases, the podiatrists did not give the client a questionnaire because they felt that the client would not be able to answer the questions due to language or eyesight problems, creating the potential for selection bias. This was despite access to translation and interpreting services within ACT Community Care.

Figure 4.4 illustrates the change in FHSQ results for the sample. Higher scores indicate a better outcome. As the sample was not normally distributed and there were fewer than thirty participants, a non-parametric test (Wilcoxon signed-ranks test) was employed to determine whether the difference was significant (Bland 1991). The only statistically significant improvement was in the domain of foot pain ($Z=-3.59$, $p = 0.00$). Foot function and general foot health also showed improvements, although these results did not reach statistical significance.

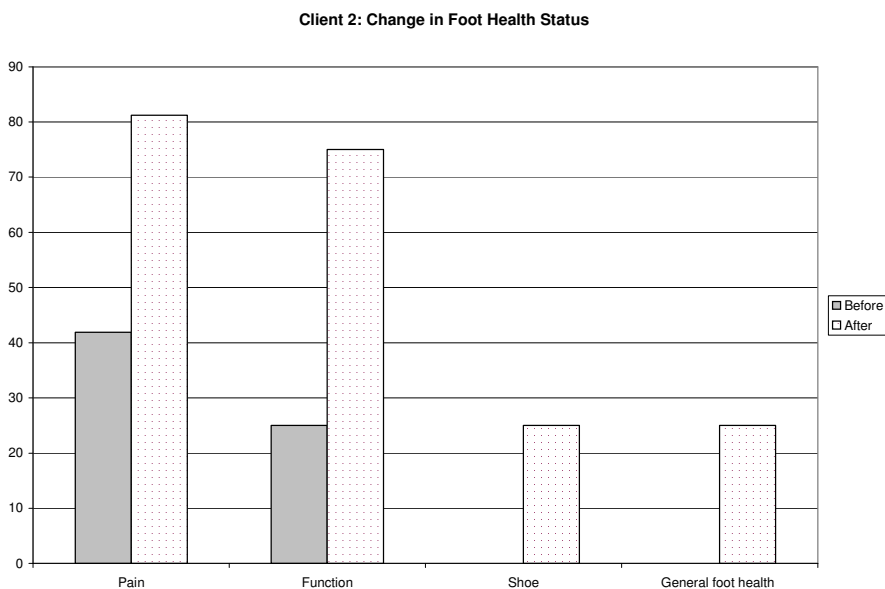
Figure 4.4: Change in FHSQ Scores



The scores indicated an overall improvement in foot health status, as did the innersole specific questionnaire, however the changes in scores were difficult to interpret due to a lack of comparative or normative data.

When I examined some of the individual cases, it became apparent that the changes should be interpreted with caution. For example, the Figure 4.5 illustrates the changes in FHSQ reported by Client Two. The changes are substantial in every domain, but she reported that she *never actually wore her innersoles*. During the intervention period, she had surgery to correct the foot problems caused by rheumatoid arthritis, which is more likely to have been responsible for her improved her foot health status.

Figure 4.5: Change in FHSQ Scores for Client 2



Another patient wrote that getting the innersoles was the “*best thing that has happened to me in years*”, however this improvement was only reflected in the domain of foot pain on the FHSQ, the other areas did not show any change.

The podiatrists did not find the quantitative data from the FHSQ useful, however they were able to respond to the qualitative feedback received from clients such as dissatisfaction or discomfort with the innersoles. Podiatrists do not normally receive this feedback given that many of the clients are already discharged within three months of the receipt of their innersoles.

None of the podiatrists looked at the FHSQ questionnaires that were completed by the clients. This was in part because the FHSQ needs to be manipulated by customised software to provide summary scores and the podiatrists did not have the information system availability to facilitate this during the clinical intervention.

The measurement of health service processes, such as the number of occasions of service and adherence to the ‘innersole care plan’ was dependent on an audit of patient files. The quality of the routine data reported in patient files varied greatly. For instance, to calculate the numbers of occasions of service per annum, the date of the intervention was required, but was not always recorded in the client file. The innersole care plan was present in only one file of the twenty-seven clients who received innersoles.

There was a reduction in the number of occasions of service received by clients after receiving their innersoles. Fifty percent of the clients were discharged, and of those remaining, the number of occasions of service dropped from an average of 5.75 to 3.2 per annum following receipt of the innersoles ($p < 0.05$). Clients who were discharged had a greater improvement in FHSQ scores than those who continued to receive services did. However, given the poor rate of recruitment into the trial, and the potential bias in the recruitment of patients, it is difficult to know whether these results can be extrapolated to the rest of the population receiving innersoles within ACT Community Care.

The results of this project were not reported to the purchaser, nor were any of the process indicators included in purchasing contracts. Instead, the results were used to improve the practice of the podiatrists by including client follow-up at three months as part of the episode of care.

This project used a validated instrument to measure changes in foot health status. The instrument was sensitive to the changing nature of the patient’s foot conditions. However, the interpretation of the health outcomes data was dependent on contextual data received from the patient. The size and direction of the changes

did not necessarily reflect the narrative feedback from the patients about the effectiveness of the intervention. Nor could the changes necessarily be attributed to the intervention, as the example of the patient with rheumatoid arthritis illustrated.

The podiatrists did not use the results of the FHSQ to inform their clinical practice, partly due to the time lag before the information was received. However they were able to respond to the qualitative feedback from patients, such as problems with the innersoles. This shows that if providers are expected to use additional questionnaires within their clinical time, the questionnaire must be of some value to the clinician.

The instrument looks at four domains of foot health, however the use of innersoles did not lead to changes in all of these domains. This raises questions about how the results should be interpreted. There is no normative data about the use of the FHSQ (or any other scale) with the use of innersoles, therefore, there is no way of knowing what change in each domains actually constitutes a “good” outcome.

There were practical issues around the use of the FHSQ as well. The podiatrists did not give the surveys to all eligible clients, creating the potential for selection bias, which could influence the results in favour of the podiatrists. The small sample size resulting from the poor rates of dissemination also create difficulties with analysis and interpretation. For instance, it is difficult to generalise these results to the remainder of the people who receive innersoles.

The routine data required to measure health service processes was often missing, such as the date the patient was seen by the podiatrist. This highlights the need for controls on the quality of the data collected at the clinical level to facilitate reporting on outcomes or process.

The next vignette, the Alcohol and Drug Program illustrates a project that focussed on the quality issues around data collection.

Vignette Three: Client Planning - Alcohol and Drug Program

The Alcohol and Drug Program, ‘client planning project’ implemented systems to facilitate the collection of health outcomes data by service providers. This project highlights some of the difficulties accessing patient data and the inability to follow-up clients to obtain outcomes data.

A new, standardised client planning process was introduced to the Alcohol and Drug Program (ADP) in October 1999. The client plan involved undertaking a detailed social, physical and psychological assessment, including the details and impact of their drug use. The new plan also required the completion of a ‘client

care plan' that documents individual client goals and their achievement against these goals. This was to be the main source of outcomes information.

I investigated the ADP Client Planning process to determine whether there was a relationship between the achievement of client goals (outcomes), the completion of the client planning process and the numbers of occasions of service (processes). This project involved three, three monthly retrospective file audits, of one-hundred consecutive client files.

Providers received extensive training in the use of the new client planning system. They were informed of the file audit three months in advance and were given a list of the auditable items.

At the first audit, client care plan was completed only 10% of the time. However, the physical, social and psychological assessments were completed between 80 – 100% of the time. Managers fed these results back to the providers. The second audit took place three months later and the completion of the client plan increased to 30%. The lack of completed care plans meant that client goals and outcomes were reported in an ad hoc way, if at all, making data collection for this project difficult. Staff feedback indicated that the client planning forms required modification to facilitate their appropriate completion. Managers modified the forms in response to staff concerns, and they were re-introduced by the program managers. Staff reported that they did not like the modified forms.

The third audit demonstrated no little improvement in key areas, such as the use of the care plan, and the results had actually declined in some fields.

I attended a consultation session to determine what providers required from their client care plan forms. Some felt that completion of these forms was a waste of time. One provider said "what's the point – who ever looks at them". There were also provider differences in what they believed the role of the care plan should be. For example, the nursing staff working in withdrawal services (an inpatient service to support patients cease using a particular drug) felt that the goals of their care were obvious (ie withdrawal and harm minimisation) and the processes of achieving those outcomes were essentially the same for all clients. They felt that the client care plan was most necessary at the point of client discharge, because clients often had social needs, such as housing requirements. However, the nurses said that although they normally attempted to address the client's social requirements at discharge, it was not their role to do this. The nurses felt that the documentation of these issues in the client care plan would formalise their changed nursing tasks, and this would create dispute over their roles. The nurses

acknowledged that inconsistent documentation at discharge meant that client needs were addressed in an ad-hoc way.

Managers perceived that the client care plan would provide clients with clear goals and expectations of the care that they received from the service. This, in turn, would provide greater structure to the provision of client care by working towards and achieving client goals in a systematic way. My audit of many files indicated that only a small proportion of the ADP counsellors and case managers actually work this way. In some cases, there were many pages of narrative about the client, but little structure to the notes, no documented goals and no clear flags as to what was expected of either the client or the case manager. This lack of structure meant that if a client changed case managers, there was little possibility of continuity of care.

It was difficult to define the interventions and quantify the outcomes of care. The ADP includes a wide range of services. Detoxification and methadone support are medically supported interventions with outcomes such as 'harm minimisation'. Many clients receive interventions that provide a supportive role, such as improving self-esteem, developing coping skills, or dealing with abusive relationships for which the outcomes are difficult to objectify. In most cases, even when outcomes could be quantified, they were not, and the achievement of subjective client goals was reported in less than five percent of client files.

Client files could not always be found using the client record database. The ADP counsellors reported that they do not always accurately report client details so that they can maintain client confidentiality and because of the possibility that client files can be subpoenaed for legal reasons.

Client follow-up was difficult to ascertain. Fewer than half of all clients continued their treatment with the ADP, despite documented attempts by the provider to contact them. Whether the client planning process actually improves outcomes is not necessarily relevant in this case. The importance of a clearly structured assessment and planning process should form the minimum standard of documentation and guide the counsellor through the necessary steps to achieving (and documenting) client goals. Since starting this project, adherence to client care planning now forms part of the purchase contract for the ADP.

This project highlights the need to formalise the systems of record keeping to facilitate the collection of health outcomes data. Neither process nor outcomes data can be ascertained if it is not documented in the client file. The project also illustrated a number of practical and political barriers to the collection of outcomes data, including the inaccessibility of files, the omission of data within files to

maintain client confidentiality, the difficulty with client follow-up, and that documentation in a file actually formalises tasks that may fall outside the domain of particular providers.

Vignette Four: Intake and Assessment Comprehensive Assessment Project – Integrated Health Care Program

The Intake and Assessment Unity Comprehensive Assessment Project was designed to follow-up the outcomes of an assessment and referral service.

The Intake and Assessment Unit (IAU) undertakes a comprehensive assessment on any client requiring two or more services within the Integrated Health Care Program. The goals of the services are to increase client independence, prevent institutionalisation as well as provide some restorative and preventative care. The IAU also provides services for clients who have been discharged from hospital. Where clients do require institutionalisation, the IAU undertakes an Aged Care Assessment Team (ACAT) assessment to determine the residential needs. The ACAT assessment is one type of comprehensive assessment.

IAU assessors expressed concern that they had no way of knowing the outcomes of their assessment process, such as whether the client received the services to which they were referred or achieved improved health status. The IAU Comprehensive Assessment Project was designed to look at the relationship between the rates of use of the health services to which the clients were referred (processes) and the rates of client achievement of goals and their self-reported health related quality of life (outcomes). Clients were recruited prospectively during February 2000 and followed-up by telephone or face-to-face interview three months later.

Of 114 eligible clients, sixty-seven were recruited into the trial. Some assessors did not recruit any patients, however those who were involved with recruitment expressed no difficulty with the process. The major barrier to recruitment was the additional time (7 minutes, average) to administer the Dartmouth COOP chart. Additionally, the key contact person for this project (the team leader) changed jobs in the middle of the data collection period and the providers stopped recruiting patients.

Three-monthly follow-up was possible for 38 (57%) of clients. The poor follow-up rate resulted from the death of some clients, and the high proportion of service users that moved into higher-level care as a result of the assessment. All but five of the 38 clients contacted had achieved their goals. The only unmet goals over which ACT Community Care had any influence were one couple that felt that their goals were not identified appropriately in the first place. All but four clients received all

the services to which they were referred. Some clients later declined those services (eg many clients chose not to use Meals on Wheels despite being referred to this service).

There was no correlation between goal achievement or improvement in COOP scores (outcomes) and use of services (processes). Health related quality of life scores improved slightly for the cohort, however it is likely that the more infirm clients were those who moved into residential care. There was no correlation between goal achievement and the proportion of health services that the client was referred to and which they actually used (Pearson $r = 0.26$, $p > 0.1$). In other words, the processes of care (receipt of care to which the client was referred) was not associated with the health outcomes (goal achievement and COOP scores) of the client.

One of the important outcomes of this project was the provision of increased or additional care to thirteen (34%) of the clients as a result of the three-month follow-up to determine the outcomes of care. During the three-month period, a number of clients' health service needs changed, for instance one man had a myocardial infarction. Another was a carer whose partner had died. None knew how to access further care to meet their new needs. The follow-up facilitated contact with appropriate services.

The age and infirmity of the clients who receive a comprehensive assessment means that their health is likely to be unstable. A result of one of the recommendations of this project, all clients now receive three-month telephone follow-up as part of the routine assessment process both to determine the achievement of client goals, and facilitate ongoing care if necessary.

The COOP charts were well accepted by IAU staff. They liked the simple format and the relative ease of use of the questionnaire, although use of the charts stopped as soon as the project leader changed jobs. Additionally, there was a poor relationship between the COOP chart scores and the actual outcomes as reported by the clients. The instruments were not sensitive to the actual outcomes of the receipt of services and did not cover a wide enough spectrum of quality of life domains to be meaningful. For example, one client reported that security was important, which was managed by including a 'peep-hole' in her front door, and installing a security wire door. She was very satisfied with the outcome of care, but this was not reflected in her COOP scores.

In this project, the measurement of outcomes became a part of the next process of care. The aim of contacting clients three months after the intervention was to determine whether they had achieved their goals and accessed the service to which

they were referred. The important outcome of this project was the identification of changed client needs and the ability to adapt the services to these changing needs. In this case, health outcomes were not a static measure with clear start and end points for this group of clients. Recognition of the rapidly declining health status of the clients was necessary to maintain their independence in the community.

Where outcomes and processes could be compared, the delivery of best practice care (ie use of services to which the client was referred) was not associated with changes in health status or achievement of the client goals. This may be, in part, due to the insensitivity of the Dartmouth COOP chart at detecting changes that are specific to this intervention. The final small sample size may prohibit the detection of meaningful change, however there is no normative data to describe the size of the change that would be expected with this group of clients. Additionally, some of the variation in the health service process was due to client choice, not the systems of health service delivery.

The poor rate of data collection after the key contact person left highlighted the need for some system of accountability for outcomes data collection within the program.

Vignette Five: Wound outcomes project – Integrated Health Care Program

The Wound Outcomes Project, like the Alcohol and Drug project, illustrates the need to implement systems that support the collection of health outcomes data and to monitor these systems on an ongoing basis.

Wound management is undertaken by nurses within the Integrated Health Care Program (IHCP). Anecdotal evidence suggests that despite clear guidelines for wound management, there is still considerable variation in practice by nurses within ACT Community Care. Additionally, the budget for wound dressings was 50% above the estimated amount for the 1999 - 2000 financial year. The aim of the wound outcomes project was to reduce practice variation and improve wound healing in the hope that this would reduce the cost of wound dressings to the IHCP.

This project investigated the relationship between adherence to the Wound Clinical Pathway (process), the time for wound healing and the cost of dressings used for particular wound types (outcomes). Regular nursing care for wound management included reporting on processes and outcomes using an existing 'standardised care plan' for wound management. At the start of the project, I undertook a retrospective audit of the files of twenty discharged clients and found that much of this data was not, in fact, easily available. Despite the existence of a previous

standardised wound care plan, it was only present in twelve of the files. Where the care plans did exist, they did not all contain the same protocols. For instance, some contained pages that were updated in different years from the original record. Nurses who treated wounds in the ambulatory clinics used different forms to the nurses involved in the delivery of home based wound care which meant that the results could not be compared across different service settings.

The care plan itself provided no mechanisms for the nurses to document wound progress over time (ie changes in wound size, exudate etc). Additionally, there was no way to know whether the wound was actually healed in the majority of cases, since wound status at discharge was only recorded in only six of the files audited.

To obtain the patient perceptions of wound outcomes, thirty nurses piloted an additional wound-specific outcome measure on a sample of clients receiving wound care. The nurses found the instrument time consuming to administer. The questionnaire asked about the impact of the wound on the lifestyle of the patient. However, nurses reported that the instrument was not appropriate for patients with long-standing ulcers because these patients had adapted their lifestyle to accommodate for their wound. When this information was combined with the results of the file audit, the steering committee requested that we focus on the routinely collected data and omit the patient perceptions questionnaire.

As a result of the initial file audit, new processes were introduced to improve the quality and rates of the routine reporting on wound processes and outcomes. The nurses adopted a wound care pathway that was developed for the Department of Veterans' Affairs (DVA). The DVA pathway solved the problem of standardised data collection between ambulatory and home based care, and provided the information necessary to determine the outcomes of care. An internal audit system was introduced in which an allocated team member reviews the files of 25 new clients admitted to the service for wound management every month to ensure that the wound care plans are used and completed.

When the final audit was undertaken, the DVA wound care plan was used in only 28%, or 21 of a total of 73 files of clients with wounds. Analysis of the results showed that clients *with* a care plan had almost twice the number of units of service (26 as opposed to 16) as clients who *did not* have a DVA care plan in their file ($\chi^2(2) = 4.8, P < 0.05$). One unit of service equates to 15 minutes of service provision. There was no difference in wound healing rates between either of the groups. The discrepancy in numbers of units of service cannot be explained by the wound type as there is insufficient information in the files of clients without care plans to establish this.

In this project, there was a direct and significant relationship between adherence to 'best practice' care and the amount of care the client received. Although this relationship was not in the direction expected. It is possible, but unlikely that use of the DVA care plan explains the increased amount of service provided to the patient. It is more feasible that the nurses selected specific types of patients on whom to use the care plan. However this cannot be confirmed in the absence of the completed care plan. There was no measurable difference in the actual outcomes of care for the clients.

This project has highlighted the fact that even when clear processes of care are used, such as the standardised wound care plan, they are not necessarily appropriate to support the documentation and achievement of goals. Secondly, without mechanisms to monitor the adherence to the model, there is no way to ensure that the processes are being adhered to. Both ACT Community Care and DVA determined that the DVA care plan constitutes best practice for the documentation and delivery of care to their clients. Regardless of the impact on client outcomes, the specified processes of care were adhered to in less than 30% of cases, which prevented accurate data collection about health service processes and outcomes.

Vignette Six: Nutrition Screening Tool – Child Youth Family and Women's Program

The Nutrition Screening Tool is slightly different to the other interventions, in that it evaluated a new intervention - a screening tool designed to ensure that parents do not introduce solids prematurely. The intervention had extensive resource implications and this project aimed to determine whether it was feasible to introduce it across the organisation. The results showed that that the initially perceived need for the service did not actually exist. However, subsequent to completing the evaluation of the service, the World Health Organisation changed their guidelines for the introduction of solids for infants. In other words, they changed the outcome that was being examined, highlighting the subjective and changing nature of some community health outcomes.

In response to anecdotal feedback that parents were receiving conflicting information about the nutritional needs of new-born babies, a group of dieticians successfully applied for funding to develop an information booklet for parents called "From Milk to More" and a two-part "nutrition screening tool". The goals of the booklet and screening tool were to ensure that parents did not introduce solids to their children before they reach four months of age, as specified by WHO

guidelines, and that when solids were introduced, the baby received an 'appropriate' texture and variety of food. The nutrition screening tools were designed for opportunistic administration to coincide with the six-week and six-month immunization schedules. Extensive piloting of the tools by the Maternal and Child Health (MACH) nurses found that an additional fifteen minutes was required to administer each of the screening tools. The cost of reprinting the booklet, combined with the relatively high resource burden of introducing the screening tools meant that the program wanted to ensure their effectiveness before their widespread implementation.

The evaluation was to take two forms; qualitative feedback, using focus groups with parents and MACH nurses about the booklet and a controlled trial of the introduction of the screening tools by introducing the tool in one region and comparing the outcomes with the three other non-intervention (ACT) regions.

The booklet was an overwhelming success with parents whose babies were old enough for them to consider introducing solids, however mothers with younger babies (three months and under) did not look at the book.

The screening tools were introduced into the intervention region for a three-month period to collect baseline data on the actual and expected age of introduction of solids as well as to pilot the instruments more comprehensively.

The three-month data collection period (n=150) found that almost 90% of parents introduce solids when the child is older than four months, and the few exceptions were often due to childhood allergies. This meant that the main goal of the project, that is, to increase the age of introduction of solids, was inappropriate for all but 10% of the existing client group. The second outcome variable, the texture and variety of food, could not be accurately measured at the six-month screen, because in some cases parents had only just started to introduce solids to their child. Additionally, the ability of the nurses to judge the appropriateness of the texture and variety of foods introduced was highly subjective.

The outcome of the project was to eliminate the second 'screening tool', and relabel them 'guided nutritional questionnaires' which could be used at the discretion of the MACH nurse. The feedback from the nurses was that the tools were useful to identify parental concerns and directing them to appropriate resources.

The importance of this project for the collection of health outcomes data was the need to clearly identify the requirement for a new service and evaluate this service before investing in its development.

Just after completing this project, The World Health Organisation released new guidelines about the introduction of solids, which recommends that solids should not be introduced until after the child is six months old. The evolving nature of health and health research means that the ‘best’ outcomes of care can vary according to the latest research and / or policy decisions.

Summary

The implications of the health outcomes approach arising from each project are summarised in Table 4.5.

Table 4.5: Summary of the implications of each project for the collection of health outcomes data

<i>Projects</i>	<i>Implications for collection of outcomes data</i>
Paediatric dental outcomes	<ul style="list-style-type: none"> ◆ Paucity of validated paediatric health outcome measures ◆ Difficulty identifying clear outcomes of a dental intervention which can be measured in a timely way and attributed to the intervention.
Innersole pilot study	<ul style="list-style-type: none"> ◆ Difficulty attributing the outcome to the intervention ◆ Poor rates of recruitment into the project by podiatrists. ◆ Poor availability of routine data for the collection of process information (eg date of service)
Alcohol and Drug Program	<ul style="list-style-type: none"> ◆ Providers had poor rates of adherence to ‘client planning’ due to the layout and location of the documentation. The client planning process require revision to increase rates of adherence by providers. ◆ Many clients did not complete their intervention, making goal determination obsolete in many cases.
IAU project	<ul style="list-style-type: none"> ◆ The Dartmouth COOP measured a narrow range of domains which did not reflect the broad range of client goals and needs. ◆ Client needs had often changed after three months, which meant that following up on the outcomes also became a new process in the delivery of services.
Nutrition screening tool	<ul style="list-style-type: none"> ◆ What was once a good outcome, may cease to be a good outcome when the parameters of the outcome change ◆ The requirement for a needs analysis before introducing expensive changes to health service delivery.
Wound outcomes project	<ul style="list-style-type: none"> ◆ The need to introduce monitoring systems to ensure that providers adhere with the minimum standards of documentation so that outcomes are recorded in the patient file.

4.6 Recommendations and changes arising from the projects

The recommendations to ACT Community Care proposed the introduction of systems to facilitate the documentation of health outcomes at the clinical level and the development of indicators of health service quality that could be reported to the QIC, and the purchaser if necessary. The recommendations focussed on three areas; file standards, process monitoring and outcomes monitoring as these were

the minimum requirements necessary to be able to access *any* meaningful information at a clinical level.

File standards proposed the minimum criteria for recording in and access to client files. For instance, all files should have at least the details of the client, the name and signature of every provider, and the date the client was seen. At any point in time, at least 90% of all files should be able to be located.

Process monitoring refers to the establishment of the minimum standards of reporting on information which is specific to the management of the client, such as goal setting, appropriateness of an intervention, client follow-up, reporting on outcomes and writing a discharge summary. Some of these issues will be generic across programs, however each program, or each discipline may identify issues that are specific to their own requirements, such as the use of clinical pathways or adherence to guidelines. Process monitoring is dependent on the achievement of minimum file standards.

Outcomes monitoring is the collection of data that relates to a specific intervention to determine the effectiveness of that intervention. If the standards prescribed in process monitoring are met, outcomes information should be reported for *every client, for every episode of care*, making outcomes information accessible through a file audit. For the results to be meaningful the intervention must be clearly defined and there should be agreement on the method of reporting on outcomes within that intervention. Outcomes do not necessarily need to be quantified, although obviously this makes aggregation of data simpler.

These recommendations were not implemented, however following this report, ACT Community Care made the completion of a client care plan compulsory for every client. No systems of monitoring were introduced to enforce this standard.

ACT Community Care has a commitment to the introduction of an organisation wide information system. Their first investment in community based information technology development was in 1997 as part of an unsuccessful consortium with partners in New South Wales, South Australia and Queensland. In early 2001, they advertised for, and selected a tenderer to develop an information technology system.

A number of smaller changes arose within the programs as a result of the individual outcomes projects;

- The ACT Diabetes Service is implementing best practice protocols for lower limb care in the form of the Footpath clinical pathway.

- Wound management protocols and documentation have been standardised across the whole of the Integrated Health Care Program community nursing and internal auditing processes have been introduced to improve rates of adherence to the protocols.
- Clients who undergo a comprehensive assessment within the Intake and Assessment Unit now have a three-month telephone follow-up to determine their achievement of goals or changed health service needs.
- The Alcohol and Drug Program have modified their Client Planning protocol;
- ‘Best practice’ processes have been identified for patients who receive denture relinement and replacement.
- There has been extensive education of staff across ACT Community Care across most programs into the importance of quality documentation, identification of and adherence to set processes, and documentation of client outcomes.

4.7 Within case analysis

ACT Community Care and the ACT Department of Health and Community Care clearly specified their intention to include health outcomes in purchasing contracts. However, there were a number of barriers to translating this goal into practice. The vignettes illustrated some of the problems with the application of health outcomes at the clinical level. However, before the projects had even started, there were a number of structural issues that contributed to the difficulties.

This case study demonstrates that information about health outcomes is not readily accessible to give to the purchaser. The measurement of health outcomes involves a number of stages including the documentation, collection and extraction of data for reporting purposes. In other words, the collection of health outcomes data requires both the implementation of systems at an organisational level as well as clearly specified criterion at a clinical level. To investigate the barriers to the use of health outcomes in this case study, I now revisit the organisational structure of ACT Community Care to examine the actors responsible for the provision of health outcomes information. The chapter goes on to explore each of the component steps involved in the collection and reporting of health outcomes data.

4.7.1 Who is responsible for the production of health outcomes data?

The first barrier to the collection of health outcomes data was the identification of clear lines of responsibility for collecting and reporting the information. The purchasing contract was an agreement between the purchasing and providing organisations. In other words, the contract was the mechanism of accountability between ACT Community Care and the DHCC for which the chief executive officer was ultimately responsible. The chief executive officer is not directly involved in the production of health outcomes information, nor is the director of primary health care, the program managers or the team leaders. The production of health outcomes information comes from the interaction between health service providers and their patients. But there are no mechanisms through which the health service providers are held accountable for the production of health outcomes data. ACT Community Care is looking to be accountable to the purchaser on the basis of health outcomes information. However, in turn ACT Community Care does not hold health service providers responsible for the collection of this data in their clinical record keeping. As a result, many health service providers do not routinely document either the goals or the outcomes of their patient – provider interaction. This means that under current reporting and accountability structures, ACT Community Care will have difficulty producing the outcomes information to give to the purchaser.

For an organisation to produce any product or outcome, the organisation must produce the components that go together to make that product. Health outcomes are dependent on the health service providers to document what they did. Whether or not the health service providers are actually contributing to the health outcomes of their patients, they do not currently provide sufficient information for the organisation to demonstrate that providers either document, or improve health outcomes.

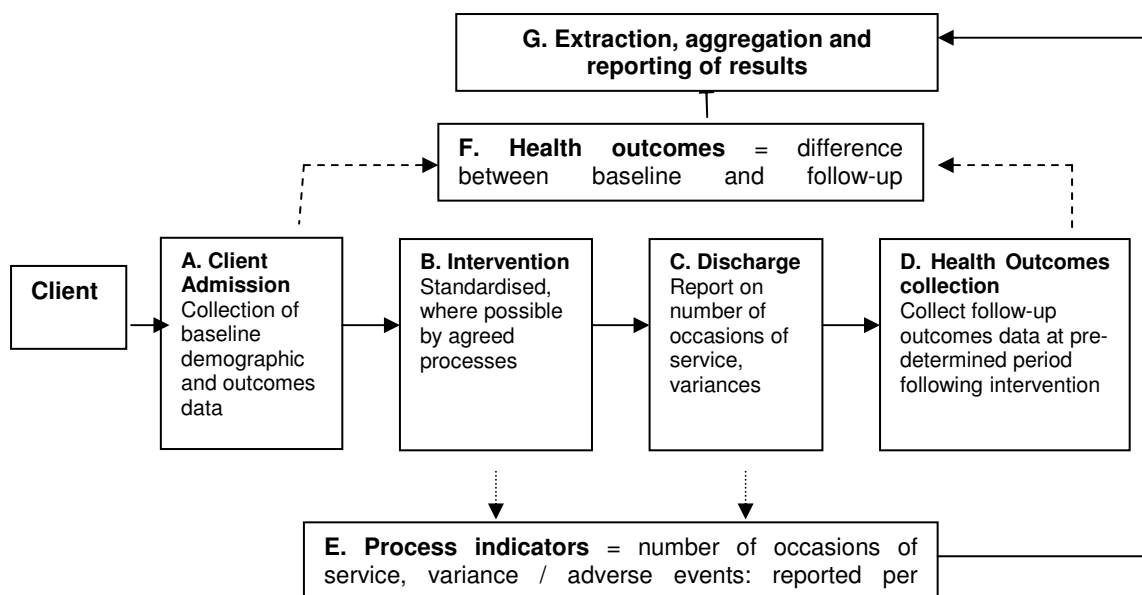
The lack of health service provider accountability for health outcomes data was illustrated in the vignettes of the Alcohol and Drug Program, the Innersole Project and the Wound Outcomes Project. Before any outcomes information could be obtained in either the Alcohol and Drug Program or the Wound Outcomes Project, systems had to be implemented to ensure that health outcomes were documented in the first place. For the Innersole project, where an additional questionnaire was used to measure the change in foot health status, data missing from the patient files meant that the frequency of visits could not be determined.

At an organisational level, health service provider accountability for producing outcomes data needs to be addressed before outcomes can be reported at any other level. Even if these structural issues are addressed, there are a number of other barriers to the use of health outcomes information in the clinical setting, and for reporting purposes.

4.7.2 The collection and reporting on health outcomes data

For health outcomes information to be produced, there needs to be an interaction between the patient and health service provider. Normally, the health service provider will deliver an intervention and there will (hopefully) be a result or outcome. However, unless the outcome is documented or reported in some way, there will be no health outcomes data produced. For reporting purposes, the health outcomes data then needs to be extracted, and aggregated. The approach to health outcomes data collection is reproduced in Figure 4.6 to highlight the issues that arose at each level of the proposed model. Each letter in the figure denotes a stage in the process of the collection of health outcomes data.

Figure 4.6: Proposed approach to outcomes data collection



A. Client admission and collection of baseline demographic and health outcomes data.

Most projects had poor rates of recruitment, which were subject to selection bias. The lack of an information system meant that there was no way of knowing what service the patient received (with the exception of the dental program). In cases where an additional questionnaire was being used, the staff member had to recognise that the client was receiving an intervention that was part of the outcomes trial, and then administer the baseline questionnaire. The Footpath, IAU

and Innersole Projects all had recruitment rates of less than 50% of eligible clients, creating potential sampling bias, which may ultimately skew the outcomes results. Where the collection of outcomes data was dependent on health service providers recruiting clients or giving out forms, the response rates were relatively low – even when additional time was built into the appointments. Some providers expressed concern about the ethical issues around the collection of health outcomes data and aggregating this for reporting purposes.

B. Delivery of the intervention and adherence to standardised processes

In many cases, the intervention could not be clearly defined, and the reproducible and measurable processes of care were poorly adhered to.

The linking of the outcome to an intervention requires that the intervention can actually be defined. Assuming that the health outcomes data can be quantified, the numbers themselves are meaningless unless they are accompanied by a descriptive label. The consultation phase highlighted that there were few clear labels that could be used for health outcomes reporting. Few interventions are delivered specifically to treat a diagnosed condition. Part of the process of developing the outcomes framework involved the identification of a range of treatment types and the outcomes that might arise from these (Table 4.3). Each health service discipline delivers a range of health service types. Attempting to report on ‘health outcomes for nursing’ for example, would mean that information about breast care was included with stoma therapy and regular insulin injections. Not only are the goals of all these interventions quite different, but the outcomes have very little in common. There is no standardised classification system in place within ACT Community Care that would facilitate this type of labeling at present.

This case study aimed to link the processes of care to the outcomes for the patient. As the consultation phase of the project demonstrated, not all interventions had reproducible processes. Where reproducible processes did exist, for example the wound care plan and the innersole care plan, the rates of adherence to these processes were poor. In many cases, systems had to be implemented to ensure that the processes of care were adhered to before the outcomes could be monitored, for instance the Alcohol and Drug Program and Wound Outcomes Project.

C. Discharge documentation of number of occasions of service and variances

Minimum data requirements were often missing from the client files when the file was accessed for audit.

The original proposal was that the majority of the process and health outcome data could be reported on a standardised discharge summary. Provider and management

resistance to the increased reporting meant that a discharge summary was only included on the modified wound care plan. Instead, provider notes were audited to access much of the 'process' information. However, process data were poorly recorded. For instance, the dates were missing in many files, so that the number of occasions of service over a particular time period could not be calculated. Often it was not even clear that the client had been discharged from the service or it was unclear that an episode of care had ended.

D. The collection of health outcomes data

Despite the availability of numerous health outcome measures, there were difficulties introducing these into clinical practice.

The early projects attempted to use psychometrically valid measures such as the Dartmouth COOP charts and the Foot Health Status Questionnaire. Poor rates of use of these measures by health service providers led to simpler methods of outcome measurement in later projects, including clinical measures such as the rate of wound healing, or goal achievement by clients. The quantifiable measures, such as the Dartmouth COOP chart had the disadvantage of a relatively generic scope of health domains, that did not necessarily reflect accurately the impact of the multi-disciplinary community based intervention.

The problems with choosing appropriate measurement instruments have already been covered. There was not always a clear point in time at which health outcomes could be measured. The outcomes of care often do not occur until after the client has been discharged from the service, for example, the Intake and Assessment Project, the Innersole Pilot study and paediatric dental outcomes. In the former cases, an arbitrary point in time was chosen, after the client received the intervention, at which the outcomes were measured. Most of the clients of the Intake and Assessment Project had received their interventions and achieved their goals, however the follow-up of outcomes often resulted in the delivery of new care due to the changing health of these clients. In this case, the measurement of health outcomes actually became part of the next health service process. It is possible that in some cases, the expectation of a finite outcome, or of an outcome at a particular point in time, may prevent the client from accessing appropriate health services when their health needs change. The expectation of an achievement of a particular outcome, or 'end-point' denies the possibility that for many clients, health is a dynamic process and whilst goal achievement is important, it does not necessarily imply the end of the health care requirements. It may in fact highlight a new need, as the IAU project demonstrated.

Whether or not health service providers are measuring health outcomes routinely, those that were involved in this project failed to document the outcomes of the patient care in their file. In some cases, the measurement of the outcomes was undertaken after the intervention had finished, so the providers were not involved in that step of data collection (IAU and FHSQ).

The second structural problem was the lack of systems to extract the health outcomes data (assuming it was produced in the first place). The poor information technology infrastructure meant that often files could not be located, the client may have been deceased without this being documented in the file or on the computerised record. The lack of health intervention classification systems meant that it was not possible to electronically identify clients who were receiving a particular intervention.

E. Reporting on process indicators

The Donabedian concept of linking structures, processes and outcomes is dependent on the ability to define the processes and outcomes of care. As a number of these studies demonstrated, such as the Intake and Assessment Unit project, the Alcohol and Drug Client Planning project, not all health service interventions have reproducible processes. In cases where the intervention does have defined processes that are well documented (such as the wound project), it is unsafe to assume that providers will adhere to these processes. Even simple measures of process, such as the number of occasions of service during a particular time period, are unreliable when providers omit to document standard details such as the date of the intervention. Process measures, at face value, appear to be clearly objectifiable components of health service delivery. As this study has shown, they are subject to a number of questions of interpretation, accuracy, reliability and validity. Before health outcomes or process data can be collected, the systems of data collection must be standardised and adhered to. For the purpose of this project, internal monitoring systems were required to ensure that standard processes of documentation were adhered to.

F. Calculation of the health outcome

Assuming that the health status has been measured objectively and converted into some sort of score that can be used to compare the health outcomes before and after an intervention, this step involves someone to actually do the calculations.

Health service providers did not always find the quantification of health outcomes data useful, and where the data required computer manipulation to obtain a score, they were not used at all in the clinical setting.

G. Extraction, aggregation of results and reporting

Even before the project commenced, the purchaser and providing organisation acknowledged that health outcomes would not necessarily be a useful indicator of health service effectiveness. The reasons for this were the acknowledged time lag for the collection of outcome and the difficulty attributing the outcomes to the health intervention. The two organisations did, however accept the proposal to identify ‘processes’ of care that could serve as proxies for health outcomes. At the start of the project, a number of health service providers could identify specific interventions for which there were clear processes of care, such as documented clinical pathways. Therefore, the collection of ‘process’ and ‘outcomes’ data appeared to be relatively straightforward. As the case studies have demonstrated, however, the collection of process and outcome data was not at all straightforward.

The extraction and aggregation of the health outcomes and process data is essential if these are to form the basis of reporting to the purchaser. However, as the previous steps have illustrated, providers introduce bias into the recruitment of patients and generally have low rates of recruitment. Where files are used as the primary source of information, they need to be located, and this was not always possible. The requisite data, such as the processes of health service delivery and the outcomes are not routinely reported. These are all practical barriers to the collection and extraction of health outcomes data.

Once the data are collected, they need to be aggregated, and these results need to be interpreted. Not all health services lend themselves to the production of data that can be aggregated to form an outcome score. For instance in the Alcohol and Drug project, the desired outcomes were the achievement of goals. In many cases, the clients did not continue to attend the ADP until their goals were achieved.

Even where there were quantifiable outcomes, such as in the IAU and Innersole projects, the results were not always easily interpreted nor necessarily an accurate reflection of the impact of the intervention. But probably the most important factor about the use of health outcomes was the example illustrated by the lady who received innersoles, never wore them and achieved a vast improvement in foot health status due to an external intervention. That is, the difficulties attributing any health outcome solely to the delivery of health care. If these results had been interpreted in the absence of the qualitative information received by the client, the intervention would have been judged as a success.

In summary, the reporting of process or outcomes data is fraught with difficulties in a health setting. Without accountability systems to hold providers responsible for producing process or health outcomes data, the quality of information collected at a

clinical level is likely to be poor. Secondly, the lack of information infrastructure to facilitate the easy reporting and extraction of process and outcomes data means that it is often difficult to access this information where it does exist.

My position within the organisation meant that change was difficult to initiate. I provided written and verbal reports which included recommendations to the program involved in each project, the QIC and to the executive. Some of the recommendations were implemented across the organisation, such as the need for care plans for all clients of ACT Community Care. This policy was implemented initially without any monitoring systems, which meant that providers still did not adhere to the care plans.

In order for outcomes or process based reporting to be effective, the interventions would need to be defined, and if possible, a classification system adopted to enable this to take place. Ideally, there would be evidence to support the delivery of that intervention in the first place. Importantly, the process data would need to be accessible, and this would require accessible files and consistency in documentation and reporting.

The project was based on the Donabedian notion that the structures and processes that go together to compile health care will predict the health outcome. The sample sizes were too small within most of these projects to refute this claim on statistical grounds. However in many of the projects, the reproducible processes that could be monitored, such as documented client planning in the Alcohol and Drug Program, would not actually be expected to directly impact on the therapeutic outcomes of the client. In other words, the specific processes of care that lead to the outcome are not clearly definable. This is the case for many of the interventions described in this case study, and likely to be the case for many multidisciplinary, community and allied health based interventions.

The recommendations arising from this project to ACT Community Care included the development of internal monitoring and review systems, similar to those used by the Alcohol and Drug and Wound outcomes projects. A model similar to that proposed by Codman, in which providers document details of the client goals, the intervention that was undertaken, and some form of client follow-up at the end of the intervention. ACT Community Care implemented a separate incident monitoring system after the introduction of this project.

In conclusion, this case study has highlighted a number of barriers to use of health outcomes in health service management. The use of health outcomes in purchasing contracts implies that the collection of health outcomes can be, and is undertaken at a clinical level. This is true in some cases, however, the extraction of health

outcomes data from the professional-patient interaction is fraught with difficulties. The assumption that health service providers measure, or at least document health outcomes routinely has proven to be incorrect within most of these studies. In the majority of cases, the collection of health outcomes data, and indeed the documentation of standardised process information such as the date of the occasion of service, took substantial training of staff. Presumably, before health service organisations can even attempt to include health outcomes in their purchasing contracts, the more basic requirements of accurate and reliable data collection must be met. Whilst the focus of this project has been to address contractual accountability between the purchaser and provider, another tier of accountability must be addressed before contractual accountability can be met using clinically based indicators.

The accessibility of the information, in this case, was limited by a number of factors. Firstly, the lack of clear mechanisms through which health service providers were held accountable for actually producing *any* outcomes data. The organisation was responsible for the production of information for which they do not hold the 'gatekeepers' of that information accountable. The quality of provider record keeping meant that in many cases the information was meaningless. The lack of classification of health service types meant that identifying a level at which to report outcomes was difficult, as was identifying clients who had received a particular intervention. Where additional questionnaires were used, providers had poor rates of compliance with their use. This is probably related to the fact that they are not held accountable for this information.

However, assuming that all of these structural, or access issues could be addressed, there are still some major problems with the actual measurement of health outcomes at a clinical level. In a number of cases, it is difficult to identify objective outcomes of care. When outcome instruments were used, such as the Dartmouth COOP charts, they did not accurately reflect the effect of the intervention – particularly once the results were aggregated. Finally, and probably most importantly, is the difficulty identifying clear outcome measures that can be attributed to the intervention.

In Chapter Five, I describe the proposed adoption of health outcomes as a management tool by the Department of Veterans' Affairs for allied health services. In contrast to ACT Community Care, which is a health service *providing* organisation attempting to meet purchaser requirements through the measurement of health outcomes, the Department of Veterans' Affairs is a health service *purchasing* organisation, or more correctly, a third-party payer. The Department of

Veterans' Affairs purchases services on behalf of Veterans and adopted the outcomes approach as a mechanism for allied health service provider accountability from the perspective of a purchaser of health services.

5 Case Study II - Department of Veterans' Affairs

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5.1 Introduction

This case study illustrates an alternative approach to the same problem of health service provider accountability experienced by ACT Community Care. Again the chapter commences with the structural relationship between DVA and the allied health service providers. This relationship is one of the important differences between the two case studies and underpins the approach to health outcomes taken by DVA.

Unlike ACT Community Care, where the onus was on the provider to identify health outcome measures that could be included in the purchase contract, DVA (the purchaser) took on the investigative role. They advertised for tenders to provide a suite of health outcome measures that could be included in purchasing contracts with allied health providers. The tender process, and the ensuing model, the “Allied Health Management System” are described in section Appendices D and E.

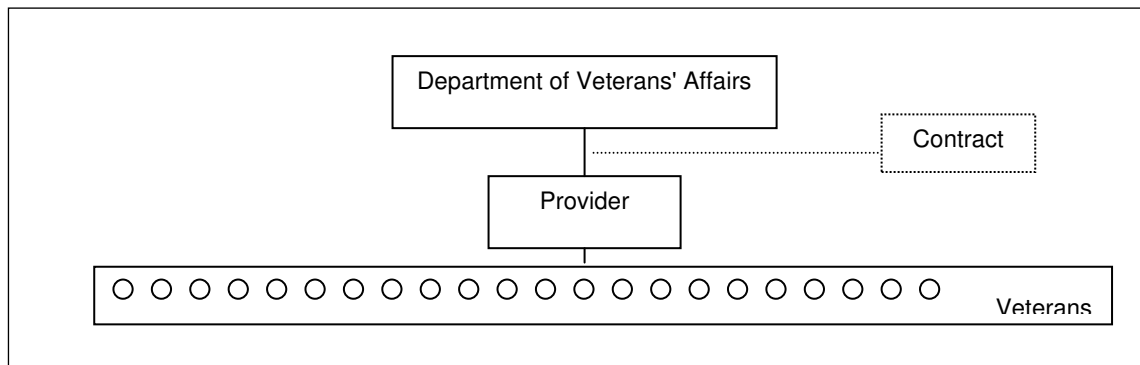
I piloted the Allied Health Management System to determine its acceptability to providers, and whether it would fulfill the requirements of DVA. The trial methodology, results and the conclusions drawn by DVA are described in the second part of the chapter.

The full report of the trial of the Allied Health Management System is presented in Appendix Two. To reduce duplication, only the components of the report that are relevant to address the research questions are included within this chapter.

5.2 The organisational relationship between allied health and the Department of Veterans' Affairs

The Department of Veterans' Affairs (DVA) purchases services from over 30 000 allied health service providers across ten disciplines nationally, including physiotherapists, psychologists, orthotists and prosthetists, social workers, speech pathologists, podiatrists, occupational therapists, osteopaths, dieticians and chiropractors. Allied health providers enter into individual contracts with DVA for the provision of services to Veterans. The relationship between DVA and the providers is illustrated graphically in Figure 5.1.

Figure 5.1: Accountability structures between the Department of Veterans' Affairs and allied health service providers.



Until recently, the provision and monitoring of allied health services had relied on the relatively resource intensive system of ‘prior approval’. In its simplest form, prior approval required the veteran to seek a referral to an allied health service provider from his or her Local Medical Officer (LMO). This then automatically entitled the veteran to a set, maximum amount of care by that provider. For example, veterans referred to a podiatrist would automatically receive eight occasions of service over a twelve-month period, regardless of the underlying condition or its severity. Any increase in this amount required the health service provider to contact an *allied health advisor* in the DVA state office for ‘prior approval’ before going ahead with the additional care.

Allied health advisors are representatives of their discipline who are employed by the Department of Veterans' Affairs, normally on a part-time basis. Historically, their role has involved the monitoring and approval of requests for extended or additional care for veterans by members of their own discipline. Also, allied health advisors represent their discipline to DVA on any issues that are likely to impact on the care provided by the providers they represent. The number of advisors employed for any discipline is proportionate to the number of providers in each state. This means that most states have at least one physiotherapy, podiatry and occupational therapy advisor. However some disciplines, such as speech pathology, have only one representative nationally.

The system of prior approval effectively established an artificial ceiling, and floor on care. It imposed parameters around health service delivery which were historically based, rather than based on the requirements of the veteran or on the delivery of ‘best practice’ services. The Department proposed the removal of prior approval to increase the efficiency of allied health service delivery and improve veteran health outcomes. It was the emphasis on the latter that led the Department to embrace the concept of health outcomes as a management tool for the

monitoring of health service providers following the removal of prior approval (Kathy Vanduren, Director of Community Health, DVA, personal communication).

5.3 The move to an outcomes approach by the Department of Veterans' Affairs

In June, 1999, the Department of Veterans' Affairs advertised for tenders to identify health outcome measures that could be used for reporting by allied health providers. The tender was specifically aimed at the identification of measures of health outcomes which could be used for reporting and monitoring purposes for each allied health discipline (DVA 1999). The tender document stated that

DVA is responsible for ensuring that health care services purchased for entitled veterans, war widow(er)s and dependents achieve optimal health outcomes" (Clause 3.10, p1) and " To determine if this is being achieved, DVA is seeking an analysis on the most recent research into health outcome measures for the range of health care services currently purchased (Clause 3.11, p1).

DVA required the tenderer to identify and make recommendations of the most appropriate health outcome measures applicable to chiropractic / osteopathy, physiotherapy, dentistry, psychology, dietetics, podiatry, occupational therapy, social work, optometrical and speech pathology. They defined 'most appropriate' as; user friendly (compatible with existing data collection arrangements), cost effective (to collect, or to report on and to analyse), consistent with best practice, and consistent with the Australian health care environment (DVA 1999).

The successful tenderer was Dr Karen Grimmer and her team from the Centre for Allied Health Research, University of South Australia. Their extensive literature review found that that whilst there were numerous outcome measures, few if any complied with the points that DVA deemed as 'most appropriate' (Grimmer, Sheppard et al. 1999).

Current information systems within DVA meant that it was difficult to find instruments that would comply with existing data collection arrangements. Before advertising for the tender, health outcomes were not explicitly used for reporting purposes at any level of DVA allied health service provision. The only data collected by DVA were health service codes on billing forms and the identification of the veteran and provider. Thus, existing information systems would need to be updated to collect the new health outcomes data. Alternatively, a different

mechanism for the collection of the data would be required. The research team proposed a system that would both rely on different mechanisms of data collection, but if implemented fully, would require enhanced information systems.

The cost effectiveness of using health outcome measures could not be determined. This was because there were no existing studies of the use of health outcome measures by community health services on which the research team could base their estimations.

It was difficult to identify measures that complied with 'best practice' due to the lack of evidence for the effectiveness of allied health services. Monitoring the effectiveness of health services on the basis of outcomes is dependent, amongst other things, on the ability to attribute the measured outcomes to the intervention (Harvey 1991). In the absence of evidence for the outcomes of the majority of allied health interventions, monitoring health services on the basis of health outcomes would not be possible.

Finally, few of measures had been tested or validated in the Australian health care environment, let alone within an allied health setting.

DVA appointed a steering committee, consisting of the Director of Community Health, the consultant who developed the AHMS, the Branch Head of Health Services, the Director of Health from the New South Wales State Office, and the contract manager.

5.4 The approach: The Allied Health Management System

The research team redefined the tender requirements in response to their inability to identify health outcome measures that could be used by DVA in health service monitoring (Grimmer, Sheppard et al. 1999). The new goals included; the introduction of a system that would lead to improvements in veteran outcomes through the removal of artificial limits to service provision, an increased onus on allied health practitioners to take responsibility for quality service provision and outcomes (ie increase provider accountability), improved partnerships between the stakeholders (veterans, allied health providers, DVA), increased efficiency for DVA by minimising the workload associated with prior approval, and the introduction of a system to support benchmarking for commonly treated conditions and enable monitoring of service provision.

To address the newly defined requirements, the research team developed the Allied Health Management System (AHMS) (Grimmer 2002). The main features of the AHMS are listed in Table 5.1.

Table 5.1: The key components of the Allied Health Management System (Grimmer 2002)

- Recognition of the veteran's treatment record as the main auditable source of information
- An algorithmic guide to the management of decisions
- Longer-term, episodic, multi-disciplinary and consultative focus
- Veteran, provider and DVA partnerships sought on outcome measures and 'Best Practice' management
- Encouragement of providers to be overtly accountable for the amount and type of treatment / management they provide for veterans.
- The use of 'red and yellow flags' that can be used to identify patients with problems that may not respond to treatment by a particular discipline.
- The use of benchmarks based on the number of episodes of care for commonly treated veteran conditions.
- The need for outcome measurement from the perspective of all stakeholders.

In essence, the AHMS guides the health service provider through the development of a comprehensive care plan that emphasises the veteran goals and the achievable outcomes of care. The AHMS asks the provider to estimate the number of contacts they expect to provide to achieve these goals, and the maximum number of contacts they anticipate they will deliver before seeing any signs of improvement. It also requires the provider to *quantify* the outcomes where possible and the authors suggested this be undertaken by a modified version of the Patient Generated Index (Ruta, Garratt et al. 1994).

The concepts of 'red and yellow flags' were included in the AHMS (Kendall 1999). Red flags describe any condition which means that treatment by that provider is contra-indicated. For a chiropractor, cancer of the spine is a contra-indication for back manipulation. Yellow flags are psycho-social factors which may impact on the outcomes of treatment. For example, a dietician should be alerted about a low income if the client needs special nutritional supplements.

The AHMS was designed to reduce the workload on providers and advisors by removing prior approval. It proposed to do this by relying on the provider's health records as the main source of information about the veteran – provider interaction. This means that the primary source of information about health service provider accountability would be physically located with the health service provider, with little information coming directly to the advisors or DVA. In other words, the AHMS helped define 'clinical quality', but direct mechanisms to ensure provider accountability to DVA were still required.

To address the need for DVA to monitor providers, a system of benchmarking was proposed. It was based on the identification of common conditions or intervention

types undertaken by each discipline and developing parameters for 'normal care' based on the numbers of occasions of service for each one. Ideally, DVA preferred that clinical pathways or standard care plans would be developed for these interventions to reduce the amount of variation in practice and simplify the implementation of the AHMS.

5.5 Implementation of the Allied Health Management System

I was employed by DVA as an external evaluator to pilot the AHMS. They wanted to know whether providers would accept the model, and how it would be implemented. They were also concerned about how they could monitor the quality of provider care. The pilot study of AHMS was used to determine the acceptability of the model to health service providers, the training requirements of providers in the use of the AHMS, and to investigate possible systems for the ongoing, post-payment monitoring of providers.

The pilot study of the AHMS was undertaken from February to July, 2000. The full report on the trial is included in Appendix D.

5.5.1 Trial method

Two different approaches were required to address the aims of the pilot. Broadly, the first approach investigated provider acceptance of the AHMS. This was determined through qualitative feedback from a selection of providers across three different sites. The second part of the trial investigated methods of post-payment monitoring of the of services provided to veterans. The data needed to address the second part of the trial included the veteran conditions treated by providers, existing data collection systems and their capacity and finally, the needs of advisors. The initial proposal for ongoing monitoring was to identify five common interventions per discipline and establish a definition of an average 'episode of care' for each. This would form the basis of benchmarking for those disciplines, and help to identify interventions for which clinical pathways would be an appropriate tool. Data derived from the pilot study was to be used to help identify the common interventions, based on reported 'conditions' on the Intention to Treat forms and feedback from providers on their mid-term questionnaires.

The practitioners included in the trial were chiropractors, osteopaths, occupational therapists, physiotherapists, dieticians, podiatrists, speech pathologists and psychologists. Social workers, optometrists and dentists were not included in the trial because social workers represent a very small proportion of allied health

services provided to veterans, so DVA felt that it was unnecessary to include them in the trial. Optometrists and dentists were excluded from the trial because the steering committee thought that long-term episodes of care are not common with these disciplines, and the outcomes are relatively straightforward. In contrast, the remaining providers do not have clearly defined outcomes and the length of their episodes of care can vary greatly and thus were included in the trial.

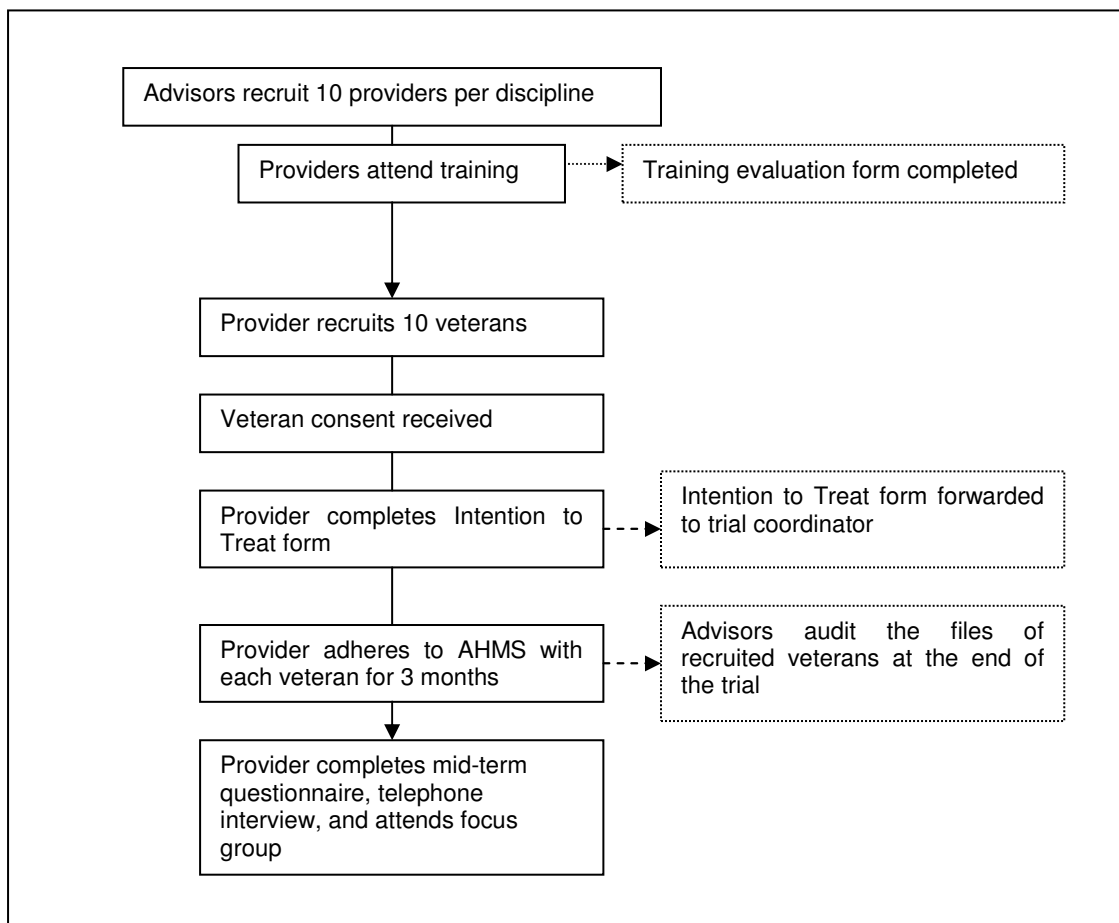
Adelaide, Sydney and Coffs Harbour were chosen as pilot sites by DVA on the basis that rural and urban providers should be included in the study. Rural and urban providers were included to help identify any specific training requirements for providers in rural locations in the event that DVA did adopt the AHMS. Adelaide was selected because the Allied Health Management System was developed in South Australia and the chair of the steering committee believed that it would be beneficial for the original AHMS team to have some input into and receive some feedback from providers. Additionally, a number of providers who are based in Adelaide have outreach practices in rural areas, enabling the provision of a slightly different perspective to, say Sydney providers, who tend to work from a single location. Sydney was selected as a training site because of the high concentration of veterans and providers. Coffs Harbour was selected as the site to train rural providers by the NSW state office. Coffs Harbour was chosen because it is a large centre, accessible to a number of providers from surrounding rural areas and a number of veterans live on the north coast.

The allied health advisors and administrative staff in the state offices were crucial to the implementation of the trial. The advisors had the in-depth knowledge about their own profession, so knew which providers would be most likely to participate and how to contact and recruit them. The administrative staff in the state offices were responsible for coordinating the mail-out to participating providers. The advisors in the New South Wales and South Australian state offices were asked to identify ten providers whom they thought would be willing to participate in the trial and access the training. The selection of specific providers brought with it the inevitable risk of selection bias. However, the advisors believed that the risk of undertaking a random selection of providers was likely to be non-response from less motivated providers. As a result, the feedback from the selected providers was considered to be 'best case' scenario.

Training was multi-disciplinary and undertaken on one evening for two hours at each of the pilot sites. Providers were paid \$100 each to attend the training. They did not receive any additional payment for their use of the AHMS.

The trial methodology is summarised in Figure 5.2. Each practitioner was asked to pilot the model on ten veterans. Any veteran attending that service provider was eligible to be recruited into the trial. Recruitment involved obtaining both verbal and written consent of the veteran to participate. The provider then completed an 'Intention to Treat' form which documented the veteran's name, contact details, conditions and the estimated number of contacts required to treat the condition/s. The veteran was also asked to sign the Intention to Treat form. The care of the veteran was managed according to the principles outlined in the Allied Health Management System. The Intention to Treat form was then forwarded to the trial coordinator in a pre-paid envelope. The project received ethics approval from the Department of Veterans' Affairs ethics committee.

Figure 5.2: Summary of AHMS trial methodology



The AHMS trial objectives were evaluated using data derived from multiple sources. Provider feedback was elicited through the completion of an evaluation report at the end of each training session, a mid-term questionnaire, a telephone interview and a focus group with the Adelaide providers. The advisors audited all the files of veterans that were recruited into the trial to determine the rates of provider adherence to the model. The Intention to Treat forms were the main source of veteran treatment information. Veteran and LMO perceptions of the trial

were going to be elicited, however feedback from providers, veterans and one LMO described in the results section highlighted barriers to this approach. Finally, advisors from each state office participated in a workshop at the end of the trial to discuss the trial implications and implementation issues.

Follow-up focus groups were planned for all training sites, however only one was held in Adelaide. Overlap with school holidays resulted in a poor response to the Sydney focus group and the small recruitment rate from Coffs Harbour providers meant that there was little value in obtaining provider feedback on a model they had not used. The focus group was used to address the main issues that arose during the trial including the time required to implement the AHMS in practice, barriers to veteran goal setting, interventions for which the AHMS would be inappropriate and methods of improving the training and dissemination of the model. Providers in Sydney were contacted individually by telephone and the issues, as well as the focus group responses were discussed with them. No new information arose from the final telephone interviews with Sydney providers, so it was unnecessary to run another focus group. Providers in Coffs Harbour were all contacted by telephone to identify any barriers to the use of the model, or clarify issues that may have led to confusion or prevented implementation of the model in the area.

5.5.2 Results of the trial

Seventy-six providers, across seven disciplines attended the training sessions, of whom fifty-six providers recruited 258 veterans over a three month period (Table 5.2).

There were a number of barriers to the recruitment of providers and veterans into the trial. Delayed communication between the national and state offices meant that providers had little notice of the training sessions and the training materials could not be sent to providers prior to the commencement of the trial. Two psychologists withdrew from the initial trial, primarily due to the relatively low rates of reimbursement by DVA relative to their private practice fees (they both responded in writing). The providers in Coffs Harbour received little notice of the trial and many were sent a letter either with the wrong name or incorrect address due to inaccuracies in the NSW state office database. This led many providers to question the credibility of the entire trial.

Table 5.2: The providers involved in the trial of the AHMS.

Discipline	Total providers who attended training	Total providers involved in recruitment	Total Veterans recruited
Podiatry	13	10	69
Physiotherapy	18	18	63
Occupational Therapists	15	15	69
Speech pathologists	3	2	4
Chiropractors / Osteopaths	7	3	23
Dieticians	8	5	15
Orthotics and prosthetics	0	0	0
Social workers	0	0	0
Psychologists	12	3	15
Total (including psychologists)	76	56	258

Many providers reported difficulties recruiting veterans into the trial. Veterans had to give written consent to participate in the trial so that they could be contacted by telephone. The trial took some time to explain, and a number of veterans were suspicious of the collection of data by the Department of Veterans' Affairs. Some veterans were concerned that the AHMS would impact on their future entitlements to health services.

Veteran perceptions were interviewed by telephone, however the first eight veterans contacted were confused about their participation in the trial, or had forgotten that they had participated in it in the first place. As a result, no more veterans were contacted. Providers were asked to comment on any feedback that they had received from veterans about the trial.

Allied health advisors reported that the tool designed to audit the files of veterans recruited into the trial was easy to follow. However many providers did not structure their notes in a way that made the information easy to find. Access to the files was also limited by the geographic dispersion of providers. Providers from Coffs Harbour mailed their notes to their advisors. The advisors in Sydney physically visited the local providers to undertake the file audit taking an average of an hour and a half per provider. The cost of accessing the data for the file audit varied greatly. Country providers were asked to send an invoice to the trial coordinator for reimbursement of the costs associated with sending their files to the state advisors. One provider invoiced the project seventy-two dollars for eighteen pages of photocopying and faxing. Sixty dollars of that was to account for her time. Other invoices ranged from twelve to thirty-eight dollars.

5.5.3 Provider feedback on the AHMS

Three themes arose around the use of health outcomes as a management tool based on the feedback received from providers in their questionnaires, focus group and telephone interview. These were;

1. The difficulties identifying veteran goals and agreed goals of treatment and distinguishing between the two,
2. The barriers to setting and quantifying goals experienced by some veterans, and
3. The expectation of reimbursement for undertaking what many providers agreed formed 'best practice' standards of record keeping.

Veteran goals versus agreed goals of treatment

An important aspect of the use of health outcomes in a clinical setting is the ability of the health service provider to understand the goals of the patient. Without the identification of clear goals, it is difficult to claim that the outcomes have been achieved. The Allied Health Management System specifies the clear delineation of *veteran* goals of treatment from the *agreed* goals of care and where appropriate, the quantification of the outcomes of care. The responses by providers to the written questionnaires indicated that goal setting and the quantification of outcomes were familiar concepts. Sixty-one responses (94%) were received from the questionnaire submitted at the training session. Two thirds of providers (62%) reported that they document veteran goals in their health record; half (49%) indicated that they document the progress of veteran goals at each occasion of service; and 43% of providers reported that they quantify the outcomes of veteran care in some way. Two thirds (62%) of providers responding to the mid-term questionnaire reported that the AHMS had improved their goal setting (the remainder said that they already set goals with the veterans). The final audit of the files of veterans recruited into the trial demonstrated that veteran goals and agreed goals were documented more than 60% of the time by participating providers. However, the rates of quantification of veteran outcomes were poor, with podiatrists quantifying outcomes 70% of the time, but dieticians and occupational therapists quantified veteran outcomes less than 10% of the time. Chiropractors and physiotherapists quantified their goals in around 40% of their veteran files.

Identifying quantifiable outcomes of care

The qualitative feedback from telephone interviews and the focus groups with providers and advisors at the end of the trial indicated that in fact there was considerable difficulty with the concepts of veteran goal setting and quantifying

outcomes. Physiotherapists at a private hospital in Sydney had difficulty with the AHMS concepts of veteran goal setting because, when the veterans were asked about their goals of care after surgery, they identified factors such as “returning to golf” or “painting the house”. The role of the physiotherapists in this particular ward was primarily to prevent the veterans from developing a deep venous thrombosis whilst in hospital and would have little to do with *improving* the physical function of the veterans. They reported that by eliciting the veteran goals, they were leading the veteran to have unrealistic expectations of care, rather than clarifying with the veteran what would be the achievable outcomes of that component of care.

Written responses to the questionnaires about “whether the use of the AHMS facilitated improved goal setting with veterans” resulted in two noteworthy responses. One provider wrote, “it prompts asking what goals the client has”, which implies that the provider did not ask about the veteran goals before the trial. Another provider wrote, “it is hard to set goals when the main condition is ongoing”. This appeared to be a common problem, with many podiatrists and chiropractors documenting ‘goals’ such as “monthly foot care” or “ongoing back care”, which might be a goal of the health service provider, but says nothing about the health outcome to be derived by the veteran.

According to providers, Veterans had mixed reactions to the notion of goal setting. In the mid-term questionnaire providers were asked whether they found that veterans were active participants in setting the goals of their care. Two thirds of providers said that veterans do participate in their goal setting, although they reported a number of factors that reduce ability of veterans to set goals. Veteran health was cited as one barrier to identifying veteran based goals; many veterans are “debilitated by age and poor health” and “often veterans need help focusing on setting goals as their cognition is affected by CVA”. Another barrier to veterans setting goals was their perception that “you’re the doctor, you should tell me what’s going to happen” (reported by a chiropractor in the telephone interview). Another provider reported that “goal setting is an unfamiliar concept to veterans. Most are just used to being passive recipients of health care” and “they just want you to administer the treatment”. Many providers reported that a number of veterans refused to participate in the trial because of the perception of increased bureaucracy being a waste of time (a sentiment shared by some providers). Some providers believed that veterans did not want to quantify the outcomes of their care because they felt (correctly) that if they demonstrated an improvement, they would no longer receive that service.

The responses to the trial of both providers and veterans indicate that goal setting was not a routine part of allied health care. Providers expressed difficulties with the notion of setting realistic and achievable goals within the context of their service delivery. Similarly, many of the veterans were either perceived by providers as being unable to identify the goals of their care, or explicitly said that it was the role of the provider to tell them what to expect. Additionally, the focus on goals and outcomes actually threatened the ongoing receipt of health care services to some veterans.

Reimbursement for 'best practice'

The additional time required to document the information required by the AHMS was commonly reported as a barrier to the implementation of the model. On the mid-term questionnaires, provider estimates of the time required ranged from 'no extra time' to 'two hours for the first appointment then an additional half an hour for every additional appointment'. Providers who attended the focus group agreed that the AHMS stipulates the minimum reporting standards. However they expected that DVA should reimburse them for adhering to the standards.

5.5.4 Ongoing monitoring of providers

The AHMS establishes a set of guidelines that could constitute the minimum standards for provider record keeping. However, the clinical records are stored with the health service providers, and there are 30 000 providers in different locations around Australia, so the Department still required some mechanism to ensure that the veterans are receiving good quality care. This section describes the mechanisms of accountability explored within the AHMS framework to try to ensure provider accountability to DVA.

Previous mechanisms of accountability within DVA have relied on a gate-keeping role by allied health advisors. DVA set a ceiling on the amount of care that could be delivered. Any provider who delivered the care within the permissible range underwent little scrutiny by DVA. Providers who needed to increase the amount of care provided, or deliver an unusual or expensive services had to obtain permission from the advisor before proceeding with that intervention. Under the system of 'prior approval' advisors had no formal mechanisms through which they could monitor the quality of care by the health service providers. The lack of adequate literature for many allied health disciplines also meant that there was little evidence to determine whether providers were giving appropriate treatment.

To help identify changing mechanisms of accountability, I felt that it was important to determine the existing systems used by advisors to monitor providers. This was

also necessary to ensure that advisors were receiving appropriate information on which to base their decisions about providers in the new model.

A focus group of seventeen advisors from four states, representing all of the disciplines participating in the trial was held in Sydney on the 17th of August, 2000. Advisors were asked how they could determine the quality of providers before the removal of prior approval. The points separating ‘quality’ and ‘aberrant’ providers are described in Table 5.3.

Table 5.3: The qualities on which advisors judge allied health service provider quality.

‘Quality’ providers	‘Aberrant’ providers
<ul style="list-style-type: none"> • Timeliness of reports returned to DVA • Gut feeling • Reasonable speed of access to service provider • Good clinical reasoning (determined by the quality of the information they give to the advisor in reports or requests for increased services) • Providers who seek the opportunity to discuss the health issues of the veteran • Member of the professional association • Participates in professional development and attends seminars • Willingness to change 	<ul style="list-style-type: none"> • Excessive number of treatments • Complaints by Veterans • Lack of variation in treatment type or reporting • Poor quality documentation (reports) • Over-prescription of equipment or services • Providers who encourage dependency of the Veteran • Providers who inappropriately raise Veteran expectations • Hostility towards advisors

The following anecdote from a physiotherapy advisor illustrates the subjective difficulties in using the AHMS to determine health service provider accountability. The advisor audited the files of a physiotherapist who was perceived to fall into the ‘quality provider’ category based on the providers’ professional reputation within her discipline, the advisor’s own experiences with the provider and feedback from veterans. However the audit of the physiotherapists files showed no compliance with any of the features of the AHMS, including goal setting, documenting the discharge of the veteran, or reviewing the progress of the Veteran at each occasion of service. The advisor thought that the physiotherapist was clinically competent and reported that she demonstrated superior clinical knowledge and good communication skills which surprised the advisor and led her to question the relationship between the AHMS and the health outcomes for veterans. It also highlights the range of indicators, subjective and objective, on which provider accountability is judged.

The removal of prior approval meant that advisors were receiving very little of the information that they had previously used to make judgements about provider quality. I asked the advisors what information they would like to receive to facilitate their roles of monitoring of health service quality and supporting providers. The advisors identified the following points;

- They requested that the contracts with providers establish the minimum standards of practice and conduct and specify the steps that will be taken if providers do not comply with the standards. For example, they asked that the contract specify when and how the counseling of ‘aberrant’ providers should be given. The advisors felt that each discipline could develop their own standards and models for management.
- The advisors wanted monitoring systems based on information collected by each provider that could be reported back to the advisors. For instance, they wanted to introduce diagnostic codes so that benchmarking could be developed based on the numbers of occasions of service for that particular condition.
- That DVA should increase the administrative difficulties for providers who do not adhere to the minimum standards. For example aberrant providers could be requested to provide a detailed care plan for each veteran, be required to return to the system prior approval, or obtain a second opinion on their management of veterans. Alternatively, DVA could introduce a mentoring system in which an aberrant provider purchases ‘expert’ time to improve their professional standards.
- ‘Preferred provider’ applications to DVA are currently processed at a national level without any consultation with other professional representatives. The advisors suggested that they should be consulted before providers are accepted as preferred providers by DVA. Forging relationships with other compensable bodies such as health insurance agencies or Work Cover could strengthen the protection of purchasers against poor quality providers.

The advisor feedback was included in the final report to DVA. A number of these points rely on information that could not be determined within the scope of the trial. Given existing information sources, five methods of post-payment monitoring were investigated as part of the trial of the AHMS;

1. Rates of adherence to the allied health management system;
2. Average number of Veteran contacts per provider;
3. The average costs of Veteran services per provider;

4. The average number of Veteran contacts for particular procedures or conditions; and
5. Combinations of the type of management undertaken and the costs / number of contacts per Veteran.

A summary of these points, the sources of data and the advantages and disadvantages of each are listed in Table 5.4.

Table 5.4: Comparison of post-payment monitoring methods

Benchmarking	Data source	Advantages	Disadvantages
1. Rates of adherence to the AHMS.	File audit of a sample of each providers Veteran files.	Clearly identifies areas in need of improvement and the quality of provider record keeping.	The high cost of accessing and auditing health service provider records.
2. Average number of Veteran contacts per provider.	Billing vouchers	Data already collected – will not require changes to existing information systems. As benchmarking is linked to payment vouchers, there is likely to be a high rate of compliance with information provision.	Not specific to the types of interventions delivered, eg acute care versus chronic maintenance which may bias particular providers. Providers may fit the norms for the <i>quantity</i> of service provision but this does not necessarily reflect the <i>quality</i> of the care provided. (Quality will be assumed once providers use the AHMS however).
3. The average cost of services per provider.	Interpolated from billing data and estimated on a per capita basis.	Data already collected, no changes to existing information systems. High compliance rates.	As above.
4. Average number of Veteran contacts for particular procedures or conditions.	Modified billing vouchers - requires that specific procedures are coded and identified on billing vouchers	Provides details on specific procedures rather than on an average of all procedures.	As per the quality issues mentioned above. The need to actually identify specific items and code for these given the difficulties classifying health service types by allied health providers.
5. Combinations of health service types and costs / contacts	Billing vouchers (if modified)	Provides a breakdown of the average costs per Veteran given a specific distribution of health service types.	Reliant on changes to billing vouchers / coding systems.

The initial proposal for ongoing monitoring was to identify five common interventions per discipline and establish a definition of an average ‘episode of care’ for each that would form the basis of benchmarking for those disciplines, and to help identify interventions for which clinical pathways would be an appropriate tool. Data derived from the pilot study was to be used to help identify the common

interventions, based on reported 'conditions' on the Intention to Treat forms and feedback from providers on their mid-term questionnaires.

The data derived from the trial have highlighted two major difficulties with the use of 'common interventions' as a basis for benchmarking. Firstly, there are no standardised criteria for defining interventions and secondly the same provider may treat multiple conditions.

The lack of standardised criteria for determining interventions

Providers listed a range of information under the heading 'conditions' including diagnoses and treatment descriptions. In the mid-term questionnaire, providers were asked to list the most common reasons that Veterans require their services. These results did narrow down the definitions somewhat, but still provided a wide range of reasons for intervention. The recruitment of 69 veterans by podiatrists resulted in the reporting of 60 different conditions. In many cases, the interventions may have been similar, but there was no way to determine this from the information provided. Similarly, occupational therapists, who recruited 60 veterans into the trial reported 62 different conditions. More than 60% of occupational therapy appointments were listed as 'assessment only' despite wide variations in the conditions listed (Tables 5.5 and 5.6). In some cases, the first conditions were similar, but then the reporting of an additional 'condition' would mean that clustering of similar conditions was not appropriate.

The reporting of diagnoses by allied health service providers is curious, as few allied health service providers actually treat the condition being reported. For instance, one occupational therapist reported 'brain tumour' as the condition being treated, yet only reported three predicted contacts with the Veteran, and labeled the management type as 'assessment only'. Occupational therapists don't, as a rule, treat brain tumours. However they are likely to adjust the home environment of a Veteran who has reduced mobility arising from the brain tumour. In this case, a description of what was done, rather than the underlying diagnosis, would have been more useful.

Table 5.5: Selection of conditions listed by occupational therapists for Veterans requiring ‘assessment only’.

Condition 1	Condition 2
Dizzy turns	
Arm knife wounds (victim of attack at home)	
Left CVA 1992	High risk of falls
Mesothelioma	Frailty, Falls
Emphysema	
Brain tumour	
Dizziness with postural change	Removal of benign tumour
Osteoarthritis	Diabetes and heart issues

Table 5.6: Selection of conditions listed by podiatrists for Veterans requiring ‘assessment only’.

Condition 1	Condition 2
Bilateral hammer toes	Plantar callus
Buckled toes	Pelvic pain / OA
Can't reach feet	
Diabetes type 2	
Diabetes type 2, risk increasing	
Gait restriction	
Inability to reach nails	
Maintenance of foot health	
Long toe nails	
Poor eyesight	Arthritis
Recent hemiplegia, right side	

Most of the ‘conditions’ give little information about the treatment provided. For example, diabetes was listed sixteen times by dieticians, podiatrists and occupational therapists with the predicted numbers of contacts ranging from one to twelve. Neither podiatrists nor occupational therapists actually treat the underlying disease of diabetes as such, but play a part in the management or prevention of complications. The label ‘diabetes’ does not provide an indicator of the types or extent of the complications. A Veteran with diabetes may require annual foot assessments or he or she may have a chronic diabetic foot ulcer requiring multiple weekly dressings. The interpretation of the data is improved when seen in the context of the type of treatment (assessment only, acute, chronic, maintenance).

The providers and advisors involved in the trial requested a standardised classification system for use with the Allied Health Management System. Providers

believed that a classification system would facilitate their reporting to DVA and provide a common language for certain treatment decisions. Advisors felt that a classification system would facilitate the introduction of benchmarks for particular intervention types.

A variety of classification systems are available, including the National Allied Health Casemix Committee's Indicators for Intervention (IFIs), WorkCover, ICD-10CM and Comcare. However the data collected in the pilot study indicates that not one system will be appropriate for all disciplines and indeed, many systems would have difficulty with intra-disciplinary applications. Feedback from the providers and advisors indicated that different levels of classification were of value for particular purposes. For example, the psychologists use a classification system called DSM – IV, which provides labels for diagnostic classifications used by psychologists. This system appeared to have acceptance by most psychologists, but would be irrelevant for the majority of other professions. The IFIs are the most recent code set developed for allied health service providers, however they have only been validated within hospital, not community settings. Allied health advisors believed that the IFIs did not adequately cover the reasons that veterans attend ambulatory settings. The IFIs code the reason that the patient receives an intervention, rather than saying what the actual intervention was. So professional differences in treatment choices may actually alter the treatment that was given, regardless of the reason for receipt of the treatment. The Chiropractors reported that the WorkCover model appropriate, but the podiatrists did not.

Treatment of multiple conditions by the same provider

A number of providers reported multiple conditions for the same veteran. Of the 258 veterans recruited, 165 (64%) were reported as having one condition, 75 (29%) had two conditions and 18 (7%) had three conditions. There was no correlation between the number of reported conditions and the predicted number of contacts ($p = 0.7$). Veterans receiving occupational therapy were likely to be reported as having multiple conditions, for example hip replacement and prostate cancer. However this bore no relationship to the numbers of contacts. Veterans with diabetes may be seen by a dietician for management of their diabetes, but also require counseling on weight loss and the management of hypertension. Diabetes and hypertension are common comorbidities, however not all Veterans with diabetes will be overweight and be hypertensive. As a result, the numbers of contacts are likely to be highly dependent on the individual health state and other issues such as socio-economic status, home support and the physical ability of the veteran to prepare food. The presentation of veterans with multiple conditions and

for a variety of treatment types with the same provider increases the difficulty of identifying single ‘conditions’ or treatment types that can be used for monitoring purposes.

Providers were requested to report on the types of management provided under the headings;

- Assessment / prescription (of equipment) only
- Management of acute condition
- Management of flare-up of chronic condition
- Maintenance management of chronic condition

Ninety percent of all providers completed the ‘treatment type’ on their intention to treat forms. Overall, the proportion of each type of management was approximately equal at around 25%, however the predicted number of contacts varied. The lowest predicted contacts occurred with assessment / prescription services with an average of 2 (SD 1). There was no significant difference between the other three categories, however the trends from these data indicate that acute care requires the most occasions per episode, followed by chronic management and then maintenance. The results for maintenance are slightly misleading as some providers, such as podiatrists and chiropractors see some Veterans for maintenance care on an ongoing basis. In these cases, the predicted contacts are reported as annual contacts only, but may go on for many years. Thirty-one veterans were reported as receiving more than one type of treatment.

Table 5.7: The average number of predicted contacts by health service type

Service type	Predicted number of contacts				
	Mean	SD	Range	Median	No.
Assessment / prescription only	2	1	1 – 5	2	49
Acute management	10	7	2 – 40	8	49
Chronic mgt – flare-up	8	5	1 – 25	7	55
Maintenance mgt	7	7	1 – 52	6	55
Not recorded	6	5	2 – 25	4	21
Total	7	6			229

Whilst the overall proportion of each type of management was approximately equal, there was inter-provider variation in treatment types. Occupational therapists primarily undertake assessment and prescription services for Veterans. Chiropractors, physiotherapists and speech pathologists have reported much higher

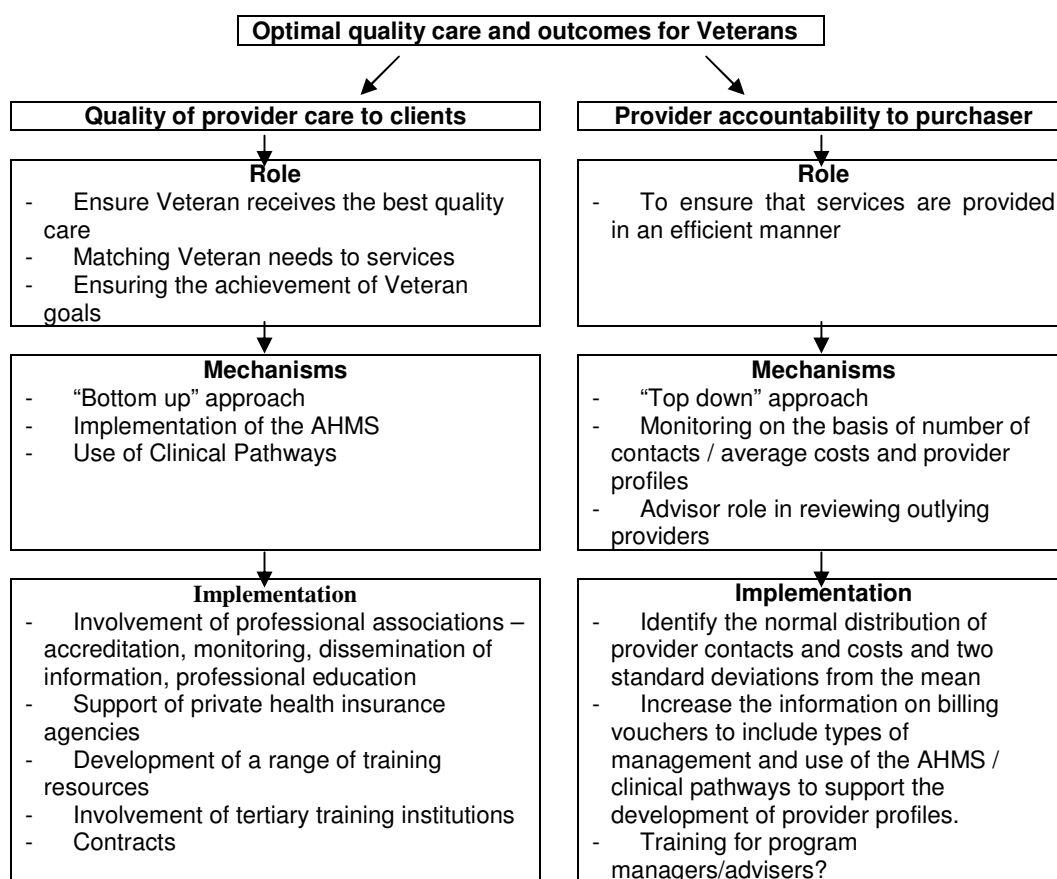
rates of acute and chronic management of Veterans, whereas 60% of podiatry treatment is maintenance management.

The final report submitted to DVA recommended that the most practical system for ongoing monitoring against benchmarks was the comparison of average numbers of contacts or costs per Veteran between providers of the same discipline. This method uses existing data sources and does not rely on the adoption of complicated classification systems by providers. This monitoring system will only be used to ensure the efficiency of service delivery (ie identify possible over-servicing). The lack of consensus on health service classification means that monitoring health service providers on the basis of particular types of interventions or procedures will be complicated, costly and time consuming. The development and adoption of clinical pathways is appropriate where common interventions or procedures are identified,. Although these can be managed and encouraged through strategies for clinical quality improvement, not an ongoing monitoring process. Additional data items may be reported by providers on billing vouchers for monitoring purposes, including “types of management” (assessment only, acute care, chronic, maintenance only) and self-reported use of the AHMS and / or clinical pathways. These items will help to develop provider profiles.

The implications for the variations in the classification of health services are twofold. Not only is it not possible to undertake routine reporting on the basis of ‘conditions’, but standards of care cannot be easily identified for ‘commonly treated conditions’ by allied health service providers.

The final report to DVA proposed that the Allied Health Management System highlights the need to clearly distinguish between *clinical quality improvement* and *ongoing monitoring* of providers. The following flow chart illustrates the different roles of each and the processes which can be undertaken to implement both.

Figure 5.6: Dual mechanisms of accountability for allied health service providers



5.6 The response by the Department of Veterans' Affairs

The steering committee reconvened in early 2001 to discuss the findings and recommendations of my report. The committee expressed concern at first that they still did not have health outcomes that could be included in the purchasing contracts with providers. Professor Grimmer retraced the steps that led to the development and evaluation of the AHMS, including their inability to identify health outcome measures that complied with the Department's own requirements for user friendliness, practicality or compatibility with existing information systems.

The steering committee agreed that the AHMS was a useful tool to ensure health service provider quality. However, they believed that the implementation of the AHMS was the responsibility of the professions, not their role as purchasing body. As a result, DVA accepted the recommendation that they should approach the professional associations and registration boards to discuss their role in the implementation of the AHMS and, to seek their cooperation and support for its introduction.

DVA supported the introduction of the AHMS so that allied health advisors could assist providers in the management of clients with very high service needs. Additionally, they agreed that the quality principles underpinning the AHMS should be introduced as part of undergraduate allied health training in tertiary institutions. The chair of the steering committee (Narelle Hohnke) undertook to meet with the Joint Heads of (allied health) Schools board to discuss the role of quality in undergraduate study.

The advisor and provider requests for the introduction of an allied health classification system was perceived by the steering committee to be beyond the scope of the role of DVA. Instead, they agreed with the recommendation that the introduction of an allied health classification system and identification of benchmarks could be discussed with other compensatory and insurance bodies.

5.7 Within case-analysis

The Department of Veterans' Affairs proposed a model of post-payment monitoring that they hoped would use health outcomes to both increase Departmental efficiency and demonstrate the effectiveness of allied health services. The Centre for Allied Health Research undertook extensive research into health outcome measures, but found that there were no measures that would fulfill the requirements of DVA. Instead, the Centre for Allied Health Research redefined the tender requirements in order to be able to deliver a product that could be implemented by DVA. The question asked by DVA was whether the health services they were purchasing would achieve the optimal outcomes for veterans. The question answered by the AHMS was, how can we optimise the quality of services received by veterans at the clinical level and provide indicators of that quality to DVA to reduce their own regulatory needs.

In this case, the use of contracts between health service providers and the purchaser, was not new. DVA believed that by making the contracts more explicit by specifying the outcomes of patient care, they would be able to remove a tier of health service monitoring, namely the role of the allied health advisors in prior approval. The actual model developed for the Department incorporates health outcomes as part of a tool that is designed to *ensure clinical quality*, but which relies on traditional process indicators to monitor health service providers. The AHMS differs from the originally intended approach in the following ways;

- Outcomes are monitored at an individual patient level, but are measured against specific goals rather than the use of a single, generic outcome instrument.

- The ongoing monitoring of providers is based on process indicators, specifically, the numbers of occasions of service and the costs of services delivered.
- Health outcomes are not included in the purchasing contracts with providers.

Unlike ACT Community Care, which had up to five tiers of management between the point of production of the outcomes data (patient-provider) and the purchasing contract, DVA purchases services directly from the health service providers. In effect, this eliminated many of the structural requirements for reporting present in the ACT Community Care model. However, DVA was still unable to implement the outcomes approach in the form that they had originally intended.

The structural concerns for DVA were less to do with management hierarchies, and more to do with the wide geographic dispersion of the providers. This means that ensuring provider accountability through mechanisms such as file audits is dependent on relatively costly and time consuming processes of copying and mailing clinical records to an advisor. It also makes the providers difficult to access for training. The relative inflexibility of the DVA information systems limited their ability to collect the intervention specific data they would require to collect health outcomes information. Even when providers are held directly accountable for the provision of outcomes data, systems need to be implemented to ensure its collection and collation.

This case study illustrates that there are still problems with the use of health outcomes in health service provider accountability. The AHMS was developed in response to the inability of the tenderers to identify health outcome measures that could be used in purchasing contracts with DVA. They found that it was difficult to identify health outcome measures that were a useful indicator of clinical quality outside the individual patient-provider relationship. The alternative system developed by the Centre for Allied Health Research, the AHMS, endorsed the measurement of health outcomes at the clinical (patient-provider) level. However this was designed to ensure that the health service provider both set and achieved appropriate goals of veteran care. The AHMS included health outcomes as only one indicator of health service provider accountability to their patient, highlighting the need for additional indicators and measures that could be extracted from the patient-provider interaction and reported to DVA.

Health service providers and veterans both expressed some difficulties with the use of health outcomes. Many providers had problems with the identification and quantification of veteran goals. A number of providers thought that they were documenting veteran goals and health outcomes, when in fact they were recording

expected health service provision without commenting on the expected or actual health change. For many veterans, concept of 'patient derived goals' represented a paradigm shift from their expectation of the medical model of care.

At the time of writing, DVA had still not implemented any form of monitoring of health service providers. However, the feedback from the advisors and the attempts to identify appropriate monitoring mechanisms in the trial highlights the need for a *range* of indicators of health service quality. It is likely that more than one source of information will be required to provide information about clinician accountability. For example, indicators may include clinical outputs such as health service volume, but may also include factors such as professional development and education. As the anecdote of the physiotherapist highlighted, objective indicators of health service quality do not always correlate with subjective indicators. Therefore, indicators should be seen in the context of a range of information about health service provider accountability. Additionally, mechanisms of accountability do not always easily translate into measurable numbers. For instance, the allied health advisors reported using a number of highly subjective mechanisms for provider accountability, only some of which directly related to patient care, others were professional issues such as professional education.

Providers and advisors both requested that DVA implement a standardised classification system for allied health interventions. Advisors thought that this information would be useful to identify benchmarks for the number of occasions of service for particular interventions. The trial showed that diagnostic categories alone would not necessarily be useful. Instead, a range of treatment descriptions and possibly labels about the type of service being offered (acute, chronic, assessment etc) would increase the meaningfulness of health service information.

The purchasing role of DVA created tension between their ability to dictate provider behaviour and their responsibility to implement changes at the patient-provider interface. As a purchaser, they requested greater accountability of their health service providers. When they were unable to identify health outcome measures that could be reported by allied health service providers, they investigated a model that increased the emphasis on health service provider quality. Two important points arose from this. First, the model was purchaser driven. Whilst providers agreed that the model formed best practice standards, they said that DVA would have to pay them more if they were to use it. This is an important point for purchasers who attempt to direct change in the health service providers from whom they purchase services. Secondly, after piloting the AHMS, DVA abrogated responsibility for its implementation. Instead, they felt that the

responsibility for the improvement of clinical quality was a professional issue, not the responsibility of the purchasing organisation. However, they were willing to discuss further monitoring systems (e.g. allied health classifications and the development of benchmarks) with other compensatory bodies. The latter point indicates that the purchaser sees clearly defined roles within the accountability hierarchy. Ironically, the reporting and documentation of health outcomes by many providers is likely to be dependent on the implementation of a system like the AHMS. In this case, the purchaser created demand for change, and even developed a system through which the change could be initiated (the AHMS). They had the potential to influence the introduction of this change by linking the use of the AHMS to reimbursement. Instead they decided to take a far less aggressive approach and negotiate with professional associations for its introduction.

Again, like the ACT Community Care case study, DVA attempted to use health outcomes in provider accountability and the resulting model placed the patient – provider interaction under a great deal of scrutiny. In other words, the new systems of accountability are in fact highly invasive. What started out as an apparently simple request for health outcomes has invaded the sanctuary of the patient – provider relationship. Provider accountability is no longer about costs or volumes, it is about what providers write and how they write it. It has the potential to prescribe quite detailed processes and to constrain the patient provider relationship in what may be unintended ways.

In this case study, the implementation of the health outcomes approach was fraught with difficulties. Apart from the obvious challenges of the cultural change for providers and veterans and the inaccessibility of data, there was no sound framework on which to collect outcomes data. The inability to then link the data back to any indicator of veteran health status essentially leaves DVA back where they started in terms of the measurement of health outcomes. Based on the results of this case study, it is appropriate to question whether health outcomes were ever going to be the answer. Perhaps, clarification of the questions at the start would have prevented this perceived compromise.

In summary, the DVA case study has shown that health outcomes are one component of health service provider accountability and are important in the context of the patient-provider relationship. However, it is difficult to identify appropriate outcome measures that can be used as an external indicator of clinical quality. The external monitoring of health service provider accountability relies on a range of indicators. At the clinical level, health service providers are largely unfamiliar with the concept of health outcomes, or even setting realistic patient

derived goals. For many patients, the concept of 'patient derived goals' represented a paradigm shift from the medical model of care.

In Chapter Six, I introduce the cross-case analysis which examines the reasons why health service organisations are unable to apply the health outcomes approach in the way that they intend. The analysis focuses on the accountability interactions within the purchaser - provider model. I identify the role that health outcomes can take within each model of accountability which in turn clarifies the barriers to the applications of health outcomes theory as each organisation has attempted to apply it.

6 Analysis

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6.1 Introduction

Both ACT Community Care and the Department of Veterans' Affairs aimed to introduce health outcomes as a way of attempting to ensure that health service providers delivered care that would optimise the outcomes of the service users, and because of a perception that the former measures of service output (mostly throughput) were not appropriate. Both organisations have highlighted a number of barriers to the application of the health outcomes approach. This chapter presents the cross-case comparison of the two sites to examine why these organisations had difficulty using health outcomes as an accountability mechanism. The propositions generated from the examination of the two case studies are compared with the original six studies presented in chapter two as a process of verification.

The questions that have driven this research are;

1. What are the barriers to the application of the health outcomes approach in the community and allied health setting? and
2. What conditions must be met before health outcomes can be used as an accountability tool in purchasing contracts for community and allied health services?

6.2 Analytical framework

The aim of the analysis is to develop a theory to address the problem of why the application of the health outcomes approach in the two organisations was unsuccessful and address the research questions. The analysis of the case studies was undertaken iteratively to draw on the themes identified in the literature, including the six examples of organisations that attempted to introduce the outcomes approach. The themes emerging from the literature include the need for exploration of the accountability frameworks; barriers to the application of health outcome measures themselves; and difficulties accessing the outcomes data.

These themes form the basis of the analysis, and this chapter is presented in two parts to reflect these themes. The first part examines the accountability models within each organisation. The focus returns to health outcomes in the second part of the chapter where I explore the barriers to the application of health outcomes information in contractual accountability.

The evidence around the outcomes approach that has been presented to date has arisen from three key sources; the review of the literature, which has informed the development and rationale for the introduction of health outcomes; the six published examples of organisations that had attempted to introduce the outcomes

approach, but which were unsuccessful; and the case studies of ACT Community Care and the Department of Veterans' Affairs.

Table 6.1 summarises the key issues that emerged from the two case studies as a result of their attempt to introduce the health outcomes approach. These themes are describes in detail in the summaries of each case study at the end of chapters four and five respectively.

Table 6.1 Summary of the key issues for each organisation

<i>Theme</i>	<i>Case study 1 – ACT Community Care</i>	<i>Case study 2 – DVA</i>
Accountability	<ul style="list-style-type: none"> • Unclear who is responsible for collection of health outcomes data • Increased scrutiny on the patient provider interaction • Poor rates of administration of outcome measures • Lack of adherence to documentation of process data (eg dates, number of occasions of service, care plans) 	<ul style="list-style-type: none"> • Lack of clarity about who should implement and enforce the outcomes approach • Need for systems to monitor the accountability structures • Increased scrutiny on the patient provider interaction • Need for range of quality indicators
Health outcomes	<ul style="list-style-type: none"> • Difficult to identify appropriate outcome measures for a wide range of interventions • Difficulty to define many interventions • Poor rates of adherence to collection of outcomes data • When do you measure the 'outcomes' of care? • Outcome measurement can become part of the next process • Objective outcomes do not necessarily correspond with subjective outcomes • Difficulty identifying reproducible processes of care or defining the intervention • Questionable benefits of using a quantifiable outcome score - narrative more useful • Bias in the selection of patients on whom outcomes are measured • Difficulties extracting health outcomes data from files 	<ul style="list-style-type: none"> • Objective outcomes do not necessarily correspond with subjective outcomes • Difficulty defining the interventions • Difficulties quantifying the outcomes of care • Providers had difficulties differentiating between the processes and outcomes of care • Difficulty accessing data due to the geographic dispersion of providers • Providers required increased reimbursement for implementing a more data intensive approach

6.3 Cross-case comparison

The remainder of the chapter compares the findings from each of the case studies and their implications for the role of health outcomes in community and allied health service accountability.

The role of health outcomes as an accountability tool was not explicitly acknowledged by either organization. Similarly, the widespread use of report cards and other forms of monitoring are often not presented under the banner of ‘accountability’, thus the accountability relationships are not examined, which can create some confusion as to who is accountable to whom and for what and lead to the inappropriate use of accountability mechanisms. The examination of the role of health outcomes within an accountability framework enables an exploration of accountability relationships, including the stakeholders and what they are responsible for producing.

The case studies have provided an in-depth analysis of two different perspectives on the application of health outcomes as an accountability tool. In both of the case studies, the desire to *introduce* health outcomes was driven by the purchaser for the purpose of contractual accountability. The investigation of the *use* of health outcomes was directed by the purchaser in the case of the Department of Veterans' Affairs and by the providing organisation in the ACT Community Care example. Despite the different perspectives, neither organisation was able to include health outcomes within their purchasing agreements.

ACT Community Care tried to identify process indicators that could serve as proxies for health outcomes within the purchasing contract, but found that systems were required to identify, introduce and monitor these processes at a clinical level before they could be measured or reported.

The ACT Community Care case study demonstrates that there are different levels of responsibility within purchaser-provider accountability. The actors within ACT Community Care that have the contractual relationship with the purchaser (ie the managers) were not the same actors responsible for producing the health outcomes (the providers). The “organisation” was expected to be accountable for producing health outcomes. Yet, the organisation did not hold the staff who actually produce the health outcomes responsible for this product. For ACT Community Care to hold their providers accountable on the basis of either processes or outcomes, they would need to introduce systems that monitor what happens at the patient – provider interface and to facilitate the collection, extraction and aggregation of data that can be reported to another audience.

Even if these systems were in place, there were difficulties with the actual measurement of health outcomes, as the vignettes illustrated. For instance, where instruments were used to measure health outcomes, they did not accurately reflect the extent of the intervention. The outcomes could not clearly be attributed to the interventions. Providers did not use the outcome measures with all eligible clients,

introducing the potential for selection bias. The accuracy and completeness of the information recorded in the patient files was sometimes compromised to protect patient confidentiality. These factors alone demonstrate that information that is derived within the clinical context does not automatically have relevance to stakeholders outside of this interaction.

The Department of Veterans' Affairs purchases services directly from allied health service providers on behalf of veterans. In effect, this means that the tiers of management between the clinician and the purchaser are missing. They developed a model that focused on the use of a 'best practice' system of documenting the patient provider interaction in which the patient record was the main archival source of information. However, DVA still had to address the two fundamental issues around the collection of health outcomes data. First, they developed a system that explicitly held providers accountable for the collection of health outcomes data. This system established minimum standards for the patient – provider interaction during the entire episode of care. The original proposal was that providers would be held accountable for adherence to these standards through routine file audits by allied health advisors. The second area that DVA had to address as a purchaser was the question of who should be responsible for the implementation of this model. Whilst they felt that it was within their capacity as a purchaser to collect health outcomes data, they did not see it as their role to implement a system through which health outcomes would be documented by providers.

In both case studies, providers demonstrated low levels of adherence to the minimum levels of reporting as proposed by Codman (Codman 1916) and subsequently by Grimmer in the AHMS.

Both the ACT Community Care and DVA models recognised that health outcomes are an important component of the patient–provider relationship. Both have also highlighted that health service provider accountability is difficult to capture with a single indicator or measure. At the time of writing, neither organisation had implemented an approach for health service provider accountability.

The attempts to measure health outcomes in each case study resulted in the scrutiny of what actually happens at the interface between the patient and the provider. This shows that the use of contractual accountability in the purchaser-provider relationship has the ability to pervade not just the relationship between a purchasing and a providing organisation, but also, theoretically to the level of the smallest interaction between a health service provider and a patient.

For ACT Community Care to be able to produce health outcomes data for the purchaser, they would, in turn need to hold each individual staff member accountable for the production of health outcomes data. The implementation of contractual accountability has a domino effect. The purchaser holds the managers of the providing organisation responsible, who, in turn holds the health service providers accountable for improving the health outcomes of their patients. The health service providers then hold the patients responsible for the identification of clear and achievable goals. In reality even if these structures were in place, both case studies highlighted a number of practical barriers to the meaningful collection, extraction and aggregation of outcomes data for reporting purposes.

Thus, there are two important issues for the use of health outcomes in health service provider accountability. There are distinct levels of accountability within the purchaser-provider framework with different information capacities and requirements. Information needs to be collected that will flow up and down the accountability hierarchies to progressively inform stakeholders at each level but the information needed at each level is not necessarily the same. To obtain the information, the various stakeholders need to be held accountable to the level above for the production of that information. The second issue is that even if those information structures were in place, there are still problems with the collection, extraction and aggregation of meaningful health outcomes data within the accountability framework.

6.4 Health service accountability

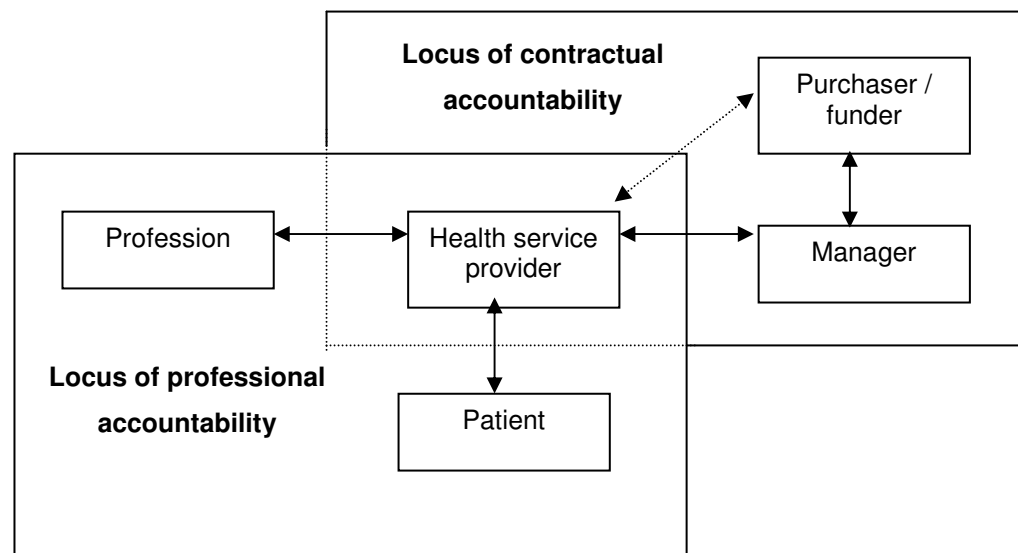
The literature and both case studies have shown that accountability is not a single interaction. It involves a range of stakeholders with different information requirements. However the difficulty applying the outcomes approach does not lie with health outcomes alone, but rather with the assumption that health outcomes are an appropriate indicator of health service quality or effectiveness when they are seen outside the patient-provider interaction. Health outcomes are one mechanism of accountability. A range of accountability mechanisms are required to address contractual requirements between the purchaser and provider.

Section 2.3 described a number of interpretations of the notion of health service accountability, the potentially infinite accountability relationships that could arise within the health care setting and the shifting values that influences what is measured. Whilst a range of accountability relationships exist in health service organisations, two stand out in terms of their importance of reporting within a purchaser-provider framework; professional accountability, that is the interaction

between the patient and the practitioner; and contractual accountability, which is the accountability of the provider or manager to the funder.

Figure 6.1 illustrates the locus of accountability in the professional and contractual models arising within the two case studies. Within the professional model, the important interactions are patient - provider and provider - profession accountability. Contracts either occur between the provider and the funder, as was the case with DVA, or between the purchasing organisation and managers (ACT Community Care). The remainder of this section examines these two models of accountability in light of the case studies.

Figure 6.1: Locus of professional and contractual accountability in the purchaser-provider model



6.4.1 Professional accountability

The professional model is the traditional model of accountability within the health field. This model focuses on the inter-relationship between the patient and the provider with the emphasis on the well being of the patient.

Professional accountability arises from the actions of the individual health service provider that impact on the health outcomes of the patient. Ideally, the interaction is defined through discussion and deliberation with the patient to identify the goals of the patient and work towards the achievement of these goals.

The locus of accountability are the provider to their patients and the provider to their professional organisation or colleagues (Emanuel and Emanuel 1996). The accountability of health service providers to patients has been upheld over recent decades through reactive mechanisms such as complaints procedures and litigation,

where the patient claims that the provider did not adhere to the self-defined standards of the profession (Emanuel and Emanuel 1996). Historically, the professional model relied on implicit approaches to accountability (Sharpe 2000). New-managerialism has led to the introduction of more pro-active mechanisms of accountability into clinical practice such as the development of guidelines, clinical pathways, the formalising of complaint mechanisms and incident monitoring systems. Within the professional model, health service providers are accountable both to their patients and professional colleagues and associations. I will describe these in detail under the headings provider –patient accountability, and provider-profession accountability.

6.4.1.1 Provider – patient accountability

The reliance on implicit systems of accountability has meant that until relatively recently, the patient-provider relationship has remained largely inscrutable by formal mechanisms. As both of the case studies illustrate, extracting *any* information from or about the patient-provider interaction can be challenging. New-managerialism promotes the use of objective systems of accountability, such as audit, to facilitate the collection and removal of data from the sanctuary of the patient-provider relationship. Informal systems do exist, such as word of mouth and informal patient complaints and compliments, however under the audit culture imposed by the new management systems, these are often difficult to systematically incorporate as an indicator of patient-provider accountability.

From the case studies, formal procedures of accountability can be seen to take two forms (Figure 6.2). They can either be file based systems (such as the AHMS) or external monitoring / surveillance systems, such as incident and complaint monitoring systems.

External monitoring / surveillance systems are explicit procedures that investigate issues of patient safety, specific outcomes, adverse events or customer feedback on particular issues, where the data are collected outside the patient-provider interaction. Often, it is difficult to link the domain in question back to a specific intervention or provider. Client satisfaction surveys are a common example of an external monitoring system used in community health settings.

Figure 6.2: Procedures of accountability within the provider-patient interaction

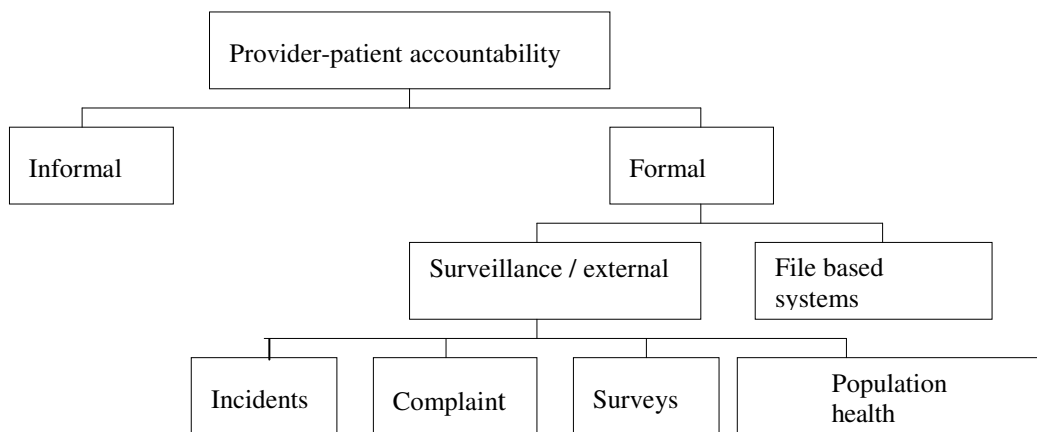


Figure 6.2 summarises the possible procedures of ensuring accountability within the patient - provider interaction, based on the information available from the case studies and the literature. File-based systems rely on the information that is documented in the patient record for provider accountability and require audit procedures to extract the information. File-based procedures formed the basis of monitoring for the majority of projects in the case studies.

The formal procedures of patient – provider accountability were poorly developed at the commencement of both case studies, however the desire to measure health outcomes led, in both cases, to the introduction of procedures of accountability at the patient-provider level.

The AHMS is an example of a file-based system of accountability. Prior to the development of the AHMS, DVA did not specify any formal domains or procedures of accountability for veteran care. Providers were accountable purely on the basis of health service volume.

The AHMS specifies a number of domains of provider-patient accountability by defining some proposed minimum standards of allied health care for veterans. These include documenting patient goal setting, goal achievement, the progress of goals, red and yellow flags which may impede the treatment outcomes, the estimated duration of the episode of care and follow-up of patients to determine their outcomes. It also encourages providers to reflect on the outcomes of their care and the treatment they provided. The proposed procedure of accountability was the audit of veteran files to determine rates of adherence to the components of the AHMS. Despite the fact that DVA purchases services on behalf of veterans, they did not see the implementation or enforcement of patient-provider accountability through the AHMS as their role as a purchaser.

The attempts to include health outcomes in purchasing contracts would require that allied health providers first collected the health outcomes data. The Department of Veterans' Affairs did not believe that it was their responsibility to introduce the mechanisms through which health outcomes data would be collected, but they did expect that they could hold providers responsible for the potential output of such a mechanism. The outcome for DVA was that no formal systems of patient-provider accountability have been implemented to date.

At the commencement of the ACT Community Care case study, there were no organisation-wide formal procedures of patient-provider accountability. Some programs had implemented file-based systems such as clinical pathways and standardised care plans (for example, the Wound Outcomes Project, Innersole Project and the Alcohol and Drug Project). As there were no formal requirements adhere to these systems, nor were there any structured audit procedures to monitor whether providers used them, many of them were poorly utilised. Subsequent to the commencement of the health outcomes project, the purchasing contract has included an agreement that client care plans will be completed for all patients. Monitoring systems have recently been introduced to enforce their use.

ACT Community Care undertakes an annual customer satisfaction survey which is a form of external monitoring of provider-patient accountability. The customer surveys are anonymous and individual service providers cannot be identified, which reduces the direct accountability of individual providers to patients through this mechanism. Informal mechanisms of reporting customer satisfaction, such as letters written to the CEO are often publicised in the staff bulletin. Formalised complaints and incident monitoring systems are currently being implemented.

The accountability between the provider and patient is commonly seen as the responsibility of the *provider* to the *patient*. However, within the DVA case study, the AHMS effectively holds the patient accountable by asking the patient to specify his or her desired outcomes of care. The AHMS makes explicit at the start of care what the patient and the provider agree that the intervention is attempting to achieve. The understanding is that the intervention will cease, either when the goals are achieved, or after a certain amount of care is delivered if the goals have not been achieved. Providers reported that many veterans had the expectation of ongoing care, which the application of this model would challenge. Patients of ACT Community Care are required to sign their care plans at the start of care to state that they understand what the provider has discussed with them.

These systems reinforce the neo-liberal governmentality concepts of patient empowerment and control. They effectively change the role of the patient from

being a passive recipient to an active participant in their care within the patient-provider relationship. The patient is held accountable for their expectations at the start of their care. Thus, the new accountability systems rearrange the accountability equation to include patients within their control.

Both case studies indicated poor provider-patient accountability from the results of the audits of the file-based systems. Providers do not routinely document the patient goals or outcomes. Even when there were clear mechanisms of 'best practice care' such as the AHMS and clinical pathways, there was no systematic way to assess whether providers actually adhered to these processes. Nor were there any structures for reporting this information. The reporting of health outcomes or processes is dependent on the development of appropriate reporting procedures at the patient – provider level to be able to extract the appropriate information. This assumes that the appropriate health outcomes data can be extracted. The barriers to the use of health outcomes are discussed in the second part of the analysis.

In some cases, the health service providers did not complete the client file accurately or completely in order to protect client confidentiality. For instance, the alcohol and drug program case-workers, said that they did not necessarily document all the relevant details about a patient, or did not always document patient details accurately. Patients rarely signed their care plans. The case-workers believed that their responsibility to the patient was to maintain confidentiality and protect the patient from the possible risks that might arise if their file were subpoenaed for use in a court case. This has implications for the implementation of file-based audit procedures. First, the client record is a confidential document and accessing that information specifically for the purpose of obtaining health outcomes data is highly invasive. Secondly, to hold providers accountable on the basis of the accurate documentation of patient details may present health service providers with a conflict of interests. What is considered to be best practice for the organisation may not be best for the client. In other words, the domains of professional accountability may be at odds with the domains of contractual accountability.

ACT Health Records Privacy Legislation enables health service providers to access patient data... *on the condition that it is not used for any other purpose unless... the use of the information is related to the management, funding or quality of the health service received by the consumer* (ACT Government 1997) Section 1(e). This legislation protects the provider who accesses the patient file, but it does not overcome the potential breach of patient confidentiality.

There are a number of different guidelines about what should be included in file audits (Bradshaw and Braid 1999). Most clinical audit procedures prioritise systems information, such as the date, provider name and signature. Whether these factors really impact on the outcomes for the patient, or even the patient experience is questionable. However, identifying appropriate indicators of 'good care' is not simple. The example of the DVA physiotherapist, who was perceived by her professional peers to be a good provider but did not adhere to any of the components of the AHMS, attests to the potential limitations of solely the file contents as an indicator of the provider quality or their interaction with their patient. Clinician concerns about the value of the auditable domains of care have been raised in the use of report cards in the US (Gross, Braun et al. 2000).

For file-based systems to be effective, the domains of accountability need to be carefully considered. The risk of poorly developed domains of file-based accountability is that they could lead to the development of a series of prescriptive guidelines about what constitutes 'good patient care' that focus on the objective, auditable components of care. This is known as Goodhart's Law, where what can be counted counts and what does not count ceases to become important (McIntyre 2000). Applying Goodhart's Law, health service quality begins to become defined by the presence of monitoring systems, rather than by a clearly defined set of guidelines that constitute quality care. The end product is a new set of rules for providers to comply with that take additional time, therefore resources. But it will be difficult to determine whether they improve the quality of the patient experience.

Both case studies have illustrated examples of the use of explicit and formal procedures for determining provider-patient accountability. The AHMS and the development of clinical guidelines represent similar approaches to defining and implementing 'best practice' care standards. In order for these domains to form part of the accountability process, they need to be systematically monitored. The monitoring of these systems are dependent on the accountability hierarchies in place. The following section describes the domains of accountability between health service providers and their profession.

6.4.1.2 Provider - profession accountability

The accountability of health service providers to their professions has, until recently been a poorly developed area within allied health. The main proponents of provider-profession accountability are professional registration boards and professional associations.

Appendix A summarises the registration and accreditation systems in place for podiatry, dentistry, occupational therapy, dietetics, psychology, speech pathology, osteopathy, orthotics, nursing, physiotherapy and social work in Australia.

Registration normally specifies the minimum standards before a provider can use a professional title. It may include other requirements, such as recency of practice. Podiatrists, physiotherapists, psychologists, chiropractors and osteopaths require state registration before they can practice under their professional title. There are state and territory variations in the registration requirements of speech pathologists and occupational therapists. Social workers and nutritionists and dieticians are not required to register in any state in Australia. Both ACT Community Care and the Department of Veterans' Affairs require evidence of registration status (where applicable) before providers can commence employment with them.

Allied health professional associations take an active role in health service provider accountability through the provision of continuing professional education, and more recently, accreditation systems (Nancarrow and Clark In press). The common themes used to promote accreditation systems include; the formal recognition of skills maintenance, reassurance to consumers and other stakeholders about the quality of the care provided, and to establish standards that can be recognised by funding bodies (Australasian Podiatry Council 2000; Australian Physiotherapy Association 2000; OT Australia 2001)

Government funding bodies and third party organisations have proposed a variety of systems for accrediting practitioners – one system, driven by the profession is simpler for individuals and third party organisations (Australasian Podiatry Council 2000).

However, whilst professional associations propose that accreditation is an important mechanism for funders and third party payers, the funders have not recognised this in the form of increased reimbursement to the providers. The accreditation systems appear to be under utilised by purchasers in their search for domains and procedures of accountability. This may be due to their relatively recent introduction.

Additionally, the 'reassurance to consumers' has not resulted in the consistent distribution of information to consumers of allied health services. The occupational therapy association claims to have actively promoted their accreditation system to employers, purchasers and consumers, although the outcome of this promotion on patient awareness has not been evaluated.

Rates of membership of professional associations vary from state to state and between disciplines. Within associations, the accreditation programs are voluntary. Some professional associations have developed clinical practice guidelines that are endorsed and disseminated by the association, however, the uptake of these systems are not routinely monitored.

Professional associations that have implemented accreditation systems have developed formalised systems of monitoring which range from self-report (Australasian Podiatry Council 2000) to individual practice audits (Australian Physiotherapy Association 2000). Providers that do not undergo accreditation are rarely subjected to any form of ongoing monitoring by their association (Emanuel and Emanuel 1996).

The domains and procedures of accountability for each of the allied health accreditation systems are also summarised in Appendix A. The domains of accountability range from a focus on continuing education (Dietitians Association of Australia 2001) to a detailed system that includes the examination of patient records, quality management and professional conduct (Australian Physiotherapy Association 2000). The procedures of accountability largely focus on the submission of a self-completed professional development plan by the allied health service provider to their professional association. The one exception to this is the Australian Physiotherapy Association which undertakes random audits of physiotherapy practices to monitor provider accountability.

The variations in the domains and procedures of accountability of the accreditation systems means that accreditation does not ensure the same standards across different disciplines. The lack of a consistent approach to health service provider accreditation by allied health disciplines may confuse purchasers and the patients that use the services.

Unlike medicine, where most doctors are regulated and funded on the basis of continuing competencies, allied health providers have little external encouragement or incentive to maintain stringent professional standards. Membership of professional associations is not mandatory. There are normally costs associated with maintaining skills or attending continuing professional education (Nancarrow and Clark In Press). Remunerative recognition of accreditation status by purchasers may increase provider incentives to become accredited. For accreditation to be systematically endorsed and adopted across disciplines by purchasers and funders, professional associations are likely to need to adopt consistent standards.

Neither DVA nor ACT Community Care formally recognise professional accreditation systems. Within both organisations, professional accountability is upheld informally through the provision of professional support networks.

Providers within ACT Community Care are responsible to both their team leader and a professional leader. It is the role of the professional leader to ensure that the professional standards are upheld within the organisation, although there are no formal, explicit methods through which professional standards are upheld.

The professional representatives within DVA are the allied health advisors. They judge professional accountability according to the range of subjective and objective indicators listed in Table 5.3 including 'gut feeling', membership of the professional association and the quality and variety of reports presented to DVA. However the advisors also claimed that they had little formal support either from DVA or their professions to fulfill their professional supporting roles. There were no explicit mechanisms through which 'under-performing' providers could be disciplined. The lack of literature to support many allied health interventions meant that differences of opinion about a particular intervention were difficult to resolve. Importantly, as the vignette of the physiotherapist demonstrated, the range of subjective indicators of provider 'quality' listed by the advisors did not necessarily correspond with the objective measures captured by the AHMS.

The implementation of the AHMS was seen by DVA as the role of professional associations, not something that should be routinely monitored or necessarily enforced by DVA. The Occupational Therapy Association agreed to include the AHMS as part of their accreditation program and award accreditation points for the use of the AHMS, although their system for monitoring its' use is not yet clear. One of the recommendations arising from my report to DVA was that they introduce a two-tiered payment system that recognises accredited providers if they used the AHMS, however they did not embrace this concept.

Professional accountability is a gradually evolving area of community and allied health service delivery. However, with the exception of professional registration few of the components of professional accountability are mandatory or enforceable. The discipline specific inconsistencies and state variations in professional associations, means that patients and purchasers have little, if any information about professional competence or quality on which they can base their choice of health services.

Professional accountability specifies the domains of health service provider competence and the responsibility of the provider to the patient for the achievement of health outcomes (amongst other things). In both case studies, the purchasers

attempted incorporate domains of *professional accountability*, such as health outcomes into purchasing contracts.

As the next section illustrate, it was partly the inappropriate application of these domains of accountability that led to the difficulties incorporating health outcomes into purchasing contracts.

6.4.2 Contractual accountability

Contractual accountability is the obligation of the provider or providing organisation to meet the contractual requirements of the purchaser. The purchaser-provider relationship is specified by a contractual agreement that should, theoretically, provide a great deal of autonomy to the provider for the provision of outcomes or outputs.

The domains of accountability within the contractual model generally include financial performance and professional competence. Contractual accountability should make explicit not the detail about the outcomes of care, but the processes by which they are checked. Douglas terms this the 'rituals of verification' (Douglas 1992). This enables the purchaser to manage at 'arms length' by monitoring the systems of accountability, rather than the actual processes of care.

The purchasers, in both case studies interpreted their contractual obligations to mean that the providers or providing organisations should demonstrate quantifiable improvements in patient health outcomes and that these should be included in purchasing contracts.

However, health outcomes are a domain of *professional* accountability, not contractual accountability. They arise from the interaction between the patient and the provider. In both case studies, the systems of professional accountability that could inform the purchasers about professional conduct were poorly developed. Neither organisation had implemented file-based systems of accountability to monitor provider-patient accountability, so they did not actually collect health outcomes data. Nor did they recognise professional accreditation. Thus, the systems of professional accountability that could form the basis of the procedures of verification for contractual accountability were not in place.

The result of the lack of professional accountability systems was the introduction of procedures to ensure some of the domains of professional accountability, such as the AHMS by DVA and the internal monitoring systems in the Alcohol and Drug and Wound Management Projects within ACT Community Care. However, neither DVA, nor the ACT Community Care managers adopted a formal or systematic approach to their introduction. The Department of Veterans' Affairs surmised that

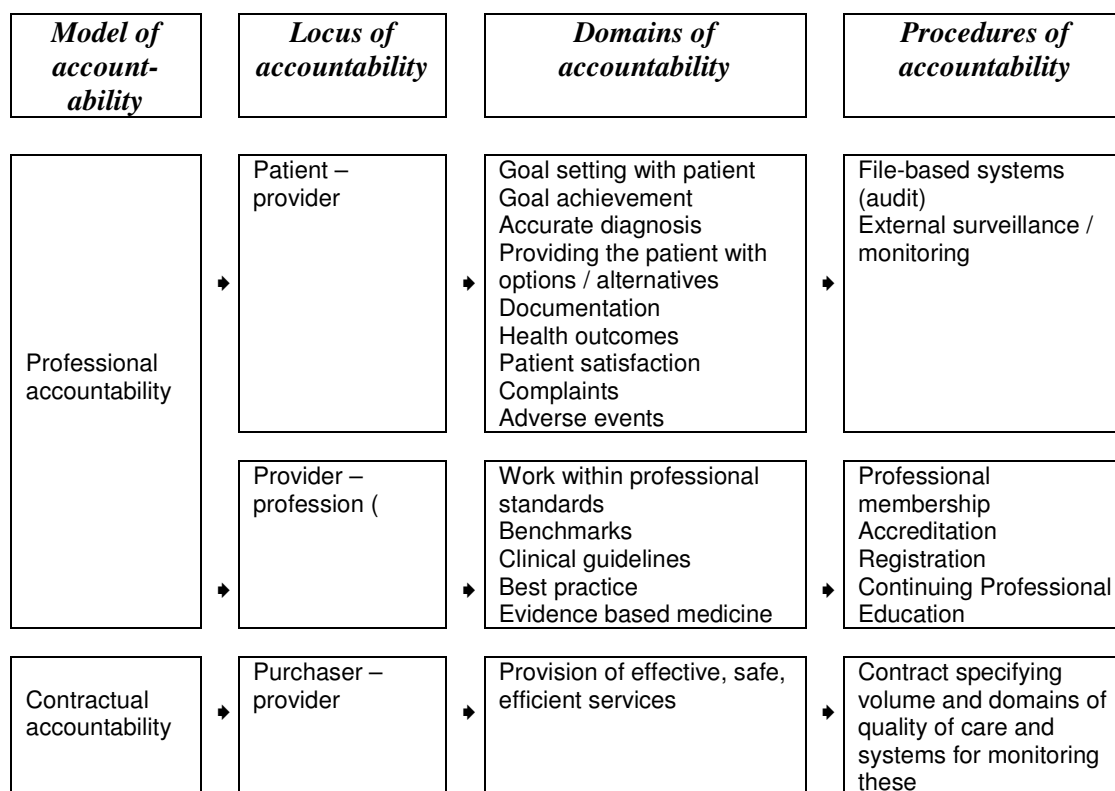
professional associations should implement the AHMS. However they did not then include the rituals of verification within their own contracts to ensure that providers were using it (such as accreditation).

For contractual accountability to include domains of professional competence, the domains of professional accountability will need to be defined and enforced within the organisation. Both case studies have highlighted the need to clearly delineate the models and resultant domains of accountability. For instance, the ACT Community Care case study illustrated the difficulties including health outcomes in contractual accountability between the DHCC and ACT Community Care when the actual responsibility for the *production* of health outcomes data is a component of professional accountability. In this case, there were no mechanisms in place to ensure that the health service providers were producing the output (health outcomes) for which the organisation was claiming responsibility.

The Department of Veterans' Affairs had a slightly different mechanism of ensuring contractual accountability. Before the removal of prior approval, the volume of care for particular interventions was pre-determined. Accountability was ensured by a form of 'gate-keeping' in which providers wanting to increase the amount of care provided to Veterans had to contact their allied health advisor for 'prior-approval'. Providers who did not have prior approval for the care provided did not receive payment for this care. Since the removal of prior approval, there have been no formal mechanisms of accountability implemented.

Instead of inventing new models of health service accountability, purchasers could examine the systems implemented by the professional associations and recognise the existing accreditation status of providers. The development of multiple, separate, disjointed systems of accountability is likely to create duplication, additional expense and an increased need for infrastructure to monitor and collect the data. Purchasers could contribute to the debate around the domains and procedures of what constitutes minimum standards of allied health profession accreditation and purchase services on the basis of factors that they deem to be important. The political model of accountability, mentioned in section 2.3, would support purchasers by enabling health care consumers to prescribe the domains of accountability that are important to them.

Figure 6.3: The levels of accountability within the purchaser-provider framework



However, it does not appear that the purchasers or providers have explicitly examined the models of accountability within their own organizations which has resulted in the inappropriate attempts to incorporate components of professional accountability, such as health outcomes, into contractual accountability.

In conclusion, there are two components of accountability that are of importance within the purchaser-provider relationship; professional and contractual accountability. Professional accountability specifies the factors that are important to optimise the outcomes of the patient and uphold the good name of the profession. Contractual accountability is the obligation of the provider or providing organisation to meet specific responsibilities dictated by the purchaser. Figure 6.3 summarises the key components of these accountability models. By attempting to use health outcomes in contractual accountability, purchasers have transgressed the boundaries of professional accountability. The result of this encroachment has been that the previously impermeable patient-provider relationship has been exposed. The domains for which providers are expected to be accountable, such as the reporting of health outcomes and in some cases, adherence to ‘best practice’ processes such as clinical pathways have been found to be seriously deficient in practice. The more subjective measures of provider accountability, such as patient satisfaction are missing from this relationship and are often measured externally to the patient provider interaction.

By not explicitly defining the locus and domains of accountability, the organizations have attempted to apply accountability procedures that are unsuitable for the purpose for which they were intended. Additionally, by not making the accountability relationships explicit, the organizations have not utilised accountability technologies that are already available, such as accreditation systems, that would potentially shift the burden of verification from the organizations to, say, professional associations, whilst preventing duplication of some resource intensive processes.

The key points arising from this section are;

1. In order for organisations to introduce new-management style accountability systems, they first need to define the accountability relationships and the domains and procedures of accountability within those relationships.

2. Health outcomes are a component of professional accountability, not contractual accountability.

By incorporating health outcomes into purchasing contracts as it transgresses the patient – provider relationship and takes clinical information into the management setting.

The next section of the analysis examines the barriers to the application of health outcome measures in the clinical setting.

6.5 Barriers to the application of health outcome measures

As the first part of this analysis demonstrated, health outcomes form an important part of patient - provider accountability. That health service providers will deliver interventions that optimise the health outcomes of the patient is an implicit expectation of the majority of health service interventions. The *reporting* of health outcomes data implies that there is an audience outside the patient - provider interaction that is interested in knowing the outcomes of care, generally of a sample or population of patients. The desire to include health outcomes in contractual accountability is an example of an external audience.

Both case studies illustrated that health service providers frequently do not document the outcomes of the care of the patient. Not only does the reporting of outcomes require that the outcomes of care are identified, they must be extracted from the patient – provider interaction. The data must then be aggregated and interpreted in a way that is meaningful to the audience, in this case, the purchaser. In other words, to facilitate the reporting of the outcomes of health care, a number

of conditions need to be met which are beyond the normal scope of patient – provider accountability. The aim of this section of the analysis is to identify those conditions and compare these with the reality observed in the two case studies.

Health outcomes are commonly defined as a change in health status which is attributable to an intervention or a series of interventions (AHMAC). Implicit in this definition of health outcomes is four assumptions about health outcome measurement;

1. That a change in *health status* can be measured or objectified in some way;
2. That the intervention can be *defined*;
3. That the change in health status can be *attributed* to the defined intervention;
4. The health outcomes data are *accessible*.

I have used these four points as the basis of the second part of the analysis, highlighting a number of practical barriers to the collection of health outcomes data for the purpose of ensuring contractual accountability. These factors are summarised in Figure 6.4.

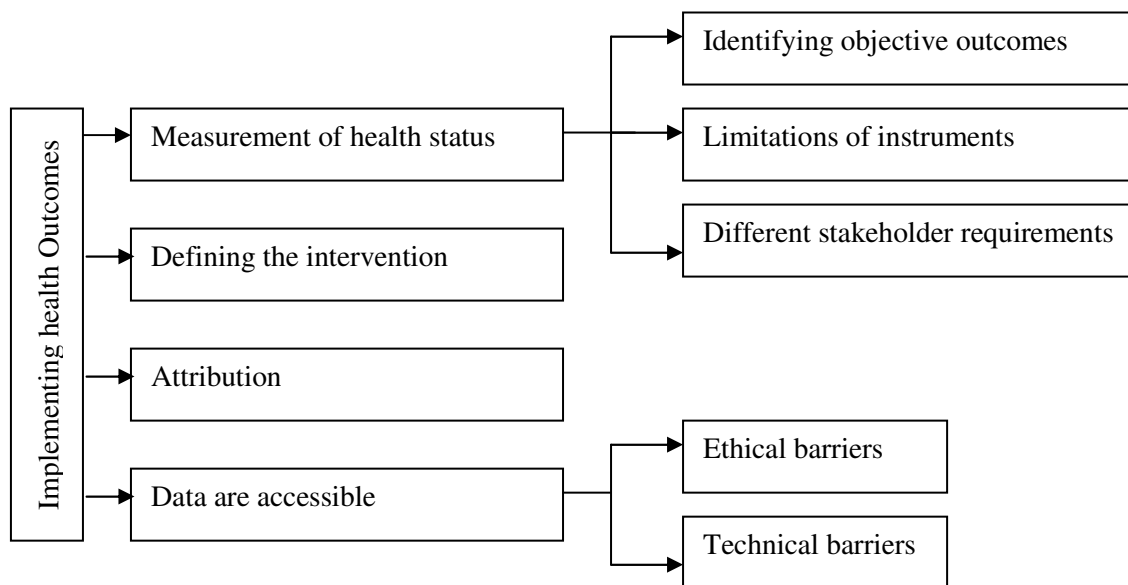


Figure 6.4 Factors defining the application of health outcome measures

6.5.1 Measurement of health status

For health outcomes to be quantified, the difference in health status before and after the intervention must be measured. The definition of a health outcome as a *change in health status which is attributable to an intervention...* underpins the need to measure health outcomes. The initial proposal for the use of health outcomes in both case studies assumed that the change in health status would be able to be quantified in a way that could be reported to the purchasing body. The

barriers to the measurement of outcomes highlighted within the case studies can be summarised under three headings;

1. The difficulties identifying objective outcomes of care;
2. The limitations of the instruments used to measure outcomes; and
3. Different stakeholder requirements for the use of outcomes data.

6.5.1.1 Identifying measurable outcomes of care

One of the factors underpinning the reporting of health outcomes for patient groups, particularly for the purpose of contractual accountability, is the simplification of the outcomes into meaningful, summary information. Michael Moore, ACT Health Minister stated at the 1998 health outcomes conference that “this means numbers”.

Many medical interventions have objective, biochemical or biological markers that can be quantified and used as end-points to an intervention. For example, changes in blood pressure, glycated haemoglobin A1C for diabetes, erythrocyte sedimentation rate and even body temperature. In contrast, few community health interventions actually manage disease processes. Instead, they manage the consequences of disease, such as their impact on the activity or participation of individuals. The result is that the end-points are often quite subjective and require different types of tools for their measurement.

Thousands of generic and specific health outcome measures have been developed to help solve the difficult problem of measuring health status. However, not all outcomes lend themselves to measurement, and not one measure can accommodate all the possible outcomes of care. Firstly, the lack of evidence to link the outcomes to the intervention means that knowing *what* to measure is difficult, as Grimmer and colleagues found when attempting to identify health outcome measures that could be used by ten different allied health disciplines for the DVA project. They proposed the use of a generic measure that could be used within the clinical intervention. They did not expect that the results would be extracted and aggregated for reporting purposes.

The ACT Community Care case study highlights the continuum of intervention and outcome types possible within a community health setting (Table 4.3). At one end of the spectrum there are reproducible interventions with objective outcomes of care, such as wound healing. This is an outcome that is easily defined, easily measured and relatively unambiguous. At the other end of the continuum are the interventions that are totally dependent on the physical, social and environmental

context of the patient. In this case, a combination of patient goals, available resources and the ability of the health service provider to access those resources, will determine both the intervention and the outcome of that intervention. The effectiveness of the intervention is judged by the achievement of the client and provider agreed goals. For example, a client who has Down's syndrome may have the goal of being able to work. His or her ability to work will depend on the provision of a suitable work place, the ability of the client to access that work place, through public transport or other means, and then the ability of the client to undertake the type of work that is available. The achievement of this goal is difficult to quantify in a way that makes it comparable with other interventions. The intervention itself is unique to that client. Therefore, there is no way of comparing the way that the outcome was achieved for that patient. Additionally, there are many factors outside the health care environment on which that outcome is dependent, such as the support available in the home environment.

The quantification of health outcomes data raises two important issues in the exploration of the routine use of health outcomes in a clinical setting. Firstly, the privileging of quantitative data over qualitative and secondly, the questionable value of the quantitative results once they have been aggregated.

The perception that "if we can't measure it, we can't do it" is flawed if the measurement instruments are not yet developed well enough to accurately measure the outcomes. The risk of this perception is that health service providers will be driven to measure what they can measure at the expense of the things that they cannot reliably quantify. The danger of selecting inappropriate measures is that they may not provide an accurate reflection of the impact of the health service. The use of the Dartmouth COOP charts in the IAU project is an example of this.

6.5.1.2 The limitations of instruments designed to measure health outcomes.

Health outcome measures are primarily developed by researchers for use in research settings – despite claims that they can be used in routine clinical care (Nelson, Landgraf et al. 1990; Bennett, Patterson et al. 1998). The three limitations to the use of health outcome instruments identified in this study were first, the problems identifying instruments that accurately reflect the actual outcomes of care. Secondly, encouraging the providers to actually use these instruments, and finally, the issues around data collection and manipulation.

The Intake and Assessment Unit project illustrated the limitation of the Dartmouth COOP chart at accurately reflecting the effectiveness of the assessment process

(Section 4.5.3). The assessment process does successfully achieve client goals in the majority of cases. However, this was reflected poorly in all the quantitative data reported for the project. Of the clients who were followed-up (again a major source of bias), small improvements in functional status were reported, however these improvements did not reflect the important outcomes such as client independence which was obtained through a relatively small intervention such as Home Help. The study by Hill et al shows that the use of a generic instrument does not discriminate between the impact derived from the intervention or the other comorbidities that influence health (Section 2.4.2)(Hill, Harries et al. 1996).

Where the measurement of health outcomes relied on the use of additional instruments by clinicians, such as the FHSQ, the COOP charts and the nutrition screening tool, the rates of dissemination were generally poor. Providers reported that they forgot to give out the questionnaires, did not have time, or felt that they were not appropriate for particular clients. If health outcomes data are to be collected and aggregated for reporting purposes outside the clinical intervention, it is important that they are from a representative sample of the population receiving the intervention. Providers require increased time to disseminate the additional instruments if they are used. Similar findings were reported in the DVA nursing outcomes project and the National Mental Health Strategy (Stedman, Yellowlees et al. 1997; Emerson 1999).

A number of health outcome instruments require additional data entry and manipulation for the results to become accessible and meaningful. In the podiatry innersole pilot study, the podiatrists did not look at the completed questionnaires, but found the qualitative feedback from patients useful, giving them a basis to respond to patient requirements. The FHSQ required dedicated software before the results could be interpreted. The SF-36, which was not used in this study, but is a common outcome tool also requires mathematical manipulation to make the results meaningful. This means that if the instrument is to be incorporated into routine use, health service providers require access to a computer. If the results cannot be accessed immediately because they need to be taken away from the clinical setting for manipulation, they lose value as a clinical tool for health service providers.

The Dartmouth COOP charts, whilst requiring no additional manipulation to give the final result, did not add any value to the data collected by the health service providers, thus ceased being completed prior to the end of the trial period. The DVA trial recommended the use of a modified version of the Patient Generated Index. Whilst there was some resistance to the quantification of outcomes – both from the perspective of the patients and the providers, there were also benefits from

its application. For instance, prior to the introduction of the AHMS, a number of providers were not eliciting the actual goals of the patient, or revisiting these on a regular basis prior to the implementation of this model. The use of the Patient Generated Index encouraged this.

There are almost as many 'health outcome' instruments as there are studies on the topic (Grimmer 1999), however the applicability of using quantified outcome instruments on a routine basis in clinical care must be questioned as a result of these two case studies. Firstly, the difficulty selecting an instrument which accurately reflects the outcomes of care has been highlighted. If an appropriate instrument can be identified, the practicalities of implementing its use need to be taken into consideration. All of these projects have illustrated the low compliance rates with the administration of health outcome instruments by allied health service providers. Providers appear to only use outcome measures where they are actually a part of the intervention delivered to the patient, such as the timed-ten-metre walk by physiotherapists. The low rates of documentation of *any* client goals or outcomes – quantified or unquantified, means that it is unrealistic to assume that providers will take the extra time to implement a time-consuming instrument to measure health outcomes.

6.5.1.3 Stakeholder issues in measurement

The use of health outcome instruments that have pre-defined domains of health status assume that most people value the same qualities of health or outcomes of care. This has implications both for the application of specific instruments for each patient as well as the audience who receives the results. Some of these issues were discussed in the literature review. The cultural limitations of some instruments has already been covered (Fox-Rushby and Parker 1995).

Most health outcome instruments produce results for a number of domains of health status. For example, the FHSQ provides results on four domains of foot health; pain, shoe, general foot health and foot function. The SF-36 gives information about eight domains of health. These domains may be important to inform researchers or health service providers. However, giving purchasers or managers the results of a number of domains of health status, for a range of interventions, is likely to be of little value.

The ACT Community Care projects illustrate that whilst health outcomes can be quantified the results are not used to inform the purchaser. Likewise, the DVA project did not require that health service providers actually send the 'health outcomes' to DVA, rather, they form the minimum standard of reporting in the

patient's file. Existing reporting to the purchaser is still undertaken on the basis of processes, not health outcomes. The information required by purchasers is not necessarily the same as the health outcomes information required by health service providers.

Often, statistical analyses are required to facilitate the interpretation of health outcomes data. Neither ACT Community Care nor DVA routinely employ staff with statistical skills. Payne identified a lack of statistical skills as one reason that many providers do not undertake research within their clinical practice (Payne 1999).

In summary, differences in stakeholder requirements mean that not one single measure of health outcomes will be appropriate for all settings or purposes. Patients will interpret their well-being and their outcomes through a value filter that is determined by their health condition, gender, cultural background and individual expectations. The requirements of health service providers of health outcomes data is distinct from the needs of managers and purchasers. This means that the content and the way the information is presented will need to be tailored to the specific audience.

This section has described some of the limitations to the *measurement* of health outcomes in the clinical setting, namely the difficulties identifying objective outcomes of care, the problems with some of the available outcome instruments and the difference in stakeholder requirements. The next section describes the issues around attributing the outcomes to the intervention.

6.5.2 Attribution

One of the major criticisms of the use of health outcomes in justifying health service expenditure and allocation is the issue of attribution. The prerequisites for attributing an outcome to an intervention are (Harvey 1996):

- A known relationship between health outcomes and specific treatments, and;
- An assurance of the quality of care so that the expected outcomes are achieved.

Whilst there has been significant growth in evidence based medicine and research into the effectiveness of interventions, the majority of health service interventions have not been evaluated in well-conducted scientific trials and even fewer interventions have been demonstrated to work in everyday practice (US Congress 1988). The paucity of evidence for the majority of allied health interventions increases this problem in a community health setting. Russell argues that basing judgements about performance on health outcomes that are not clearly attributable

to an intervention is unethical and may actually result in reduced equity of resource allocation (Russell 1998).

Even where health outcomes have been linked through research to a health service intervention, it is sometimes difficult to determine whether the outcome would have occurred anyway, or may have occurred for other reasons. A good example of this is the client who participated in the Innersole Outcomes Project who demonstrated a large improvement in foot health status scores despite never wearing her innersoles. A number of studies have demonstrated that factors other than the intervention contribute to the measured outcomes (Jankowski 1999). For instance, post-operative return to work is influenced more by social status than by the health status of the patient (Lawrence, Doll et al. 1996).

The difficulty attributing the change in health state to the intervention means that the value of using of health outcomes data as a mechanism of contractual accountability is limited unless risk adjusted outcomes can be determined. As few allied or community health interventions can be evaluated this exactly, the use of risk-adjusted outcome measures in health service accountability is likely to be many years away. For some community based interventions, this will never be possible due to the individual patient and contextual factors on which the outcomes are dependent.

The difficulties attributing the outcomes to the intervention are the reason that most performance indicators are based on process indicators. However, these have been criticized on the basis that they do not necessarily reflect what the intervention is aiming to achieve (Nancarrow 2001).

6.5.3 Accessibility of data

The reporting of health outcomes outside the patient-provider interaction is dependent on the outcomes being documented in the first place, and then their extraction from the clinical interaction. Whilst this sounds obvious, there were a number of technical barriers to achieving this in both case studies, and the examples presented in the literature review. Broadly, the obstacles to accessing data can be grouped under the headings of physical and ethical barriers.

The technical barriers to the accessibility of health outcomes data were provider compliance with the collection of data, the geographic dispersion of providers, the information technology systems in place and poor file management systems. The ethical barriers to the accessibility of the data included patients and providers refusing to consent to provide the information, and secondly, legal issues around what was actually reported in the file.

Ideally, health outcomes data would be accessible from a single database, or the marriage of many databases at the press of a button. The reality is that few of these systems exist in community health services within Australia at present. One of the major barriers to collecting outcomes information in the ACT Community Care study was the lack of information technology infrastructure. Clients who received a particular intervention could not be identified. Often files could not be located. The information systems were not up to date with respect to the 'living or dead' status of many clients. Even when files could be found, often the necessary data were missing. DVA had a more practical limitation to accessing their data. The 30 000 allied health service providers from whom they purchase services are widely dispersed around Australia, many away from regional areas, making it difficult to access files or providers. Additionally, the purchasing role of DVA meant that providers expected to be reimbursed for increased provision of information.

Health outcomes measurement and reporting is dependent on the sharing of information derived from the interaction between a patient and their health care provider. Apart from the previously described difficulties of actually measuring the outcomes, a culture in which health service providers are prepared to share information is necessary (Wood 1999).

In cases where the health service is being purchased by an organisation on behalf of the patient, there is normally some form of implied or expressed access of the information to the purchasing organisation. Providers who contract to DVA agree that the veteran file is the property of DVA and as such, can be accessed by DVA at any time.

Most providers who participated in the DVA trial were aware that their files could be audited at any time by DVA, however one of the most common points of contention about being involved in the trial was the fact that providers felt that they should be reimbursed for the extra amount of paperwork required to participate in the trial. Whilst most of them agreed that the information being requested by DVA was the minimum standard which should be addressed, by having their files audited, providers said that they needed to improve the way that this information was recorded. This meant changing the way that they write, using less jargon and making the files generally acceptable to any external audit process.

The perspective of the patient is rarely considered in the drive for outcomes data collection. Sharing of information is seen as a barrier to outcomes collection from the perspective of health service providers, however in many cases, the patient is not consulted about the use of their records for purposes of eliciting health outcomes data or quality assurance mechanisms. This raises ethical questions

around the collection of any health data. If health outcomes measurement is to become a routine part of clinical care, at what stage should patient consent be obtained, if at all?

ACT Community Care programmes have policies on patient consent and are currently formulating a service wide consent policy. Additionally, the ACT government has a policy on patient privacy which was described previously (ACT Government 1997).

Most of the health outcomes projects have been undertaken under the umbrella of 'clinical quality improvement' and have not been through ethics approval. These projects do involve collecting patient specific data, often pertaining to their health status, and aggregating it at an intervention level. The line between 'quality' and 'research' is very fine in this instance.

The reality is that most allied health data is not accessible, and in fact, in the majority of cases, health outcomes data is not routinely collected. This project has identified that data accessibility of health outcomes data is limited by file management systems, the quality of recording of data, lack of sophisticated information systems and lack of consensus on exactly what *should* be reported. Accessing patient files can influence what health service providers will actually record in a positive or negative way depending on the perspective of the stakeholder.

6.5.4 Defining the intervention

One of the most important insights that I obtained through undertaking the two case studies was the lack of clear classification systems for community based allied health services. This was possibly the most contentious point of discussion with providers and purchasers of allied health services, and an issue that was reinforced by the UK study by Flynn et al (1996). Most believed it should be possible to describe what it is that the health service provider is doing and why. Moreover, there was an expectation by purchasers, managers and some providers that some form of 'standard of care' could then be developed around these classifications. Indeed, my initial proposal to ACT Community Care was based on this assumption. Interestingly, attempts to introduce any form of classification system were met with varying levels of resistance in both case studies.

Another point highlighted by the two case studies was that different classifications may be required for different purposes. Diagnostic coding may be of significance to the health service provider and perhaps a DVA advisor to help them establish the type of intervention and any possible contra-indications. However, as the DVA

results illustrated, the use of diagnostic codes as a basis for undertaking ongoing monitoring of providers by a purchaser has little value. This was illustrated by the DVA example of the management of “diabetes” by podiatrists, dieticians and occupational therapists with highly varied numbers of occasions of service and presumably the delivery of quite different interventions.

The data provided in the DVA case study clearly highlights the diversity of interventions provided by allied health service providers, and the reasons for these interventions. Discussions with providers from each discipline indicate that some form of classification may be able to be developed for each. Chiropractors and psychologists both reported existing classification systems with which they are satisfied; one is psychology specific (DSM-IV) and the other was a Workcover classification system. The physiotherapists at ACT Community Care were able to identify their sixteen major intervention types. Podiatrists identified the six main interventions that they undertake. Social workers used time as a mechanism to delineate between their interventions and were reluctant to use any form of diagnostic system. Dieticians were involved in the development of the Indicators for Intervention developed by the National Allied Health Casemix Committee. They felt that this system accurately described their services. No single existing classification system is likely to be appropriate to all health service providers.

The health service intervention is the unit underpinning the measurement of health outcomes, and indeed, the supposed reason for the change in health status. Thus, the difficulties in actually defining what health service providers do has important implications for the measurement and reproducibility of the outcome. The diversity of service types provided *within* each discipline supports the notion that it is not enough to have a ‘physiotherapy outcome’ or an ‘occupational therapy’ outcome. Outcomes of these services can be as diverse as preventing falls, increasing range of motion or decreasing pain. Importantly, a number of different underlying diagnoses might require the same intervention to achieve these outcomes.

Before allied health services can move to a health outcomes management strategy, it may be appropriate that they develop and adopt a classification system to describe what it is that they do.

In summary, there are a number of practical barriers to the routine collection of health outcomes in an allied or community health care setting. This does not mean, however that health outcomes should not be ascertained. Given the paucity of evidence for the effectiveness of many allied health interventions, the complexity of many community based services and the multiple morbidities of many of the clients of community and allied health services, it makes sense to follow and

document the outcomes of every client. The results of the two case studies do not support the widespread introduction of health outcome measures. From the available evidence, clinicians did not utilise quantifiable changes in health status but were able to respond to the narrative or subjective outcomes of care. Health outcomes are difficult to extract from a clinical interaction, and their meaning and value varies according to the audience receiving the information.

6.6 Propositions

This chapter has explored the application of health outcomes in health service accountability by ACT Community Care and the Department of Veterans' Affairs to examine the barriers they faced. I have explored their approach from the perspective of the accountability frameworks in which health outcomes were applied, and examined the actual use of health outcome measures themselves.

Health outcomes, as they were applied in the context of the two case studies, were an attempt to make explicit, and quantify, the results of an interaction between a patient and clinician. The organisations expected that they would be able to aggregate the change in health outcomes and use them as a system of contractual accountability between the purchaser and provider. There appear to be a number of factors that have influenced the application of the approach in these cases that lead to the following theoretical propositions;

Organisations attempting to introduce new-managerial style accountability frameworks need to clearly define their accountability relationships. By clarifying the accountability relationships, managers can identify the appropriate domains and procedures for verification within that relationship. The identification and definition of the accountability relationships will help managers and purchasers to identify tools that are already available. There is clearly not one approach that fits all, as these case studies and the examples in the literature review have identified.

In the six cases presented in the literature review, none had developed clear accountability structures for the provision of health outcomes data. In two instances, (National Goals and Targets and Divisions of General Practice) the lack of clear accountability relationships was highlighted as a barrier to the implementation of the outcomes approach.

Health outcomes are not an appropriate mechanism of contractual accountability. In a health service setting, health outcomes a product of the patient-provider interaction, thus, they are a component of professional accountability. By incorporating health outcomes into purchasing contracts, they are being placed in the domain of contractual accountability, which theoretically makes managers

responsible for the results of clinician's professional actions. The inability to clearly attribute a change in a health status to any health care intervention means that whilst health outcomes may be a useful adjunct to clinical care, they must be used with caution as a way of allocating resources, or even measuring health service effectiveness.

There are a range of potential tools for demonstrating health service accountability, as Figure 6.3 illustrates. These domains require further investigation to determine whether they appropriately reflect the interactions they aim to represent and to ascertain their relevance to the stakeholders involved (which is dependent on a clear understanding of the accountability relationships).

None of the six case studies in the literature review were able to use health outcomes in any system of contractual or management accountability. The AHMAC mental health project found that outcomes were difficult to translate into useful information for management purposes. Similarly, the DVA and education projects found difficulties linking funding to outcomes. The National Goals and Targets project acknowledged the difficulties attributing outcomes to the impact of the health services. The impact of the new accountability frameworks on each of the case studies was the collection of a great deal more 'quality' related service information, however in the absence of an accountability structure, the value of this information and the stakeholders who benefit from it are unclear.

Given current technology, quantifiable health outcome measures are not the most appropriate or useful tool for determining professional accountability. In order to extract data from a clinical interaction that can be quantified, aggregated – and then interpreted in a meaningful way is fraught with difficulties. In order for health outcomes to be used as a domain of contractual accountability, five conditions must be satisfied:

1. The outcome must be able to be attributed to the intervention.
2. The outcomes data must be documented and collected in a systematic way.
3. The intervention must be able to be defined and reproduced within finite boundaries.
4. The outcomes must be measurable in an objective way; and
5. The data must be accessible, both technically and ethically.

Within the two case studies presented, few of these criteria can be met with current levels of research or technology. Indeed, in some cases, the criteria will never be

met. For instance, many community health interventions cannot be clearly defined, nor can the outcomes be objectively measured. The application of health outcome measures in a clinical setting is subject to selection bias and loss to follow-up. Health outcome measures take time to administer. It is difficult to capture the influence of an intervention with many of the tools that are currently available for the measurement of health outcomes. Thus, the value of routinely using quantifiable outcomes of care must be questioned, except when that outcome forms the explicit goal of care, such as a measurable change in blood pressure or blood glucose (however, these are often clinician derived goals rather than patient driven goals). Few community and allied health interventions explicitly aim to achieve a quantifiable outcome. Rather, they aim to achieve improvement in more subjective aspects of a patient's well-being. Few health outcome measures capture these subjective outcomes of care and the value of simply 'asking the patient' seems to be poorly recognised.

The use of health outcomes in health service accountability is based on the dual assumptions that the audience is homogeneous and that the same information will be beneficial to informing all stakeholders. Both DVA and ACT Community Care assumed that if the recipients of care had better outcomes, then this would translate into useful information about the accountability of the health service provider. In reality, however there are a number of different stakeholders interested the outcomes of care and accountability of providers. As one author observed "notions about accountability are more than descriptions of the current system; they are also normative guides to determine the institutional structures for health care organisations and the type of health care delivery system we should have" (Emanuel and Emanuel 1996).

Each of the six case study sites, and the UK study by Flynn et al expressed difficulties providing outcomes data. In most cases, these barriers fit under the five headings described above. Attribution of the outcome to the intervention was expressed as a difficulty by the National Goals and Targets, Divisions of General Practice, DVA, AHMAC mental health project and the Education project.

The collection and reporting of health outcomes data presented difficulties in each case due to the lack of available outcome measures (except the AHMAC mental health project), difficulties physically collecting and collating the data, the poor quality of the data and the lack of IT infrastructure (DGP, AHMAC and DVA) to support the collection of outcomes data. The result in each case has been an increased burden of data collection, with a focus on the easily collectable items rather than necessarily clinically meaningful data.

The six case study sites appear to have had less difficulty defining their interventions than ACT Community Care or the Department of Veterans' Affairs. However, the study by Flynn et al (1996) described in Chapter Two highlighted a number of barriers to defining community health interventions.

However, health outcomes form a fundamental component of professional accountability. It *is* the responsibility of the provider to ensure that the intervention achieved the desired goals, and if it did not, to identify why, then to facilitate patient goal achievement through other mechanisms. Professional accountability can be demonstrated explicitly and formally through the systematic audit of patient files to ensure that aspects of accountability are present. The responsibility for this level of accountability can either fall to the professional associations or to the providing organisation. However, unless mechanisms are introduced to ensure that the accountability cycle is complete, that is, to evaluate the adherence or compliance with the criteria for specific content areas, and mechanisms through which these can be reported, there will be no way of ensuring provider accountability.

6.6.1 Plausible rival hypotheses

This thesis has examined the role of health outcomes in health service accountability for two Australian community and allied health services and the reasons that they had difficulty applying the outcomes approach. The two services were examined in the context of a number of other organisations that attempted to implement health outcomes in health service accountability and also experienced difficulties.

All of the organisations described in this study experienced difficulties with the provision of the health outcomes information. As this chapter has highlighted, there are a number of common features across these organisations, as well as some differences due to the different contexts in which the health outcomes approach has been applied.

One of the striking similarities between all of the organisations is their under-preparedness for the introduction of the outcomes approach. For instance, their inability to define community and allied health interventions, the lack of appropriate information systems and unclear lines of accountability, highlight the need for a great deal of infrastructure before a health outcomes approach be properly implemented. It may be that these systems can eventually be developed and implemented to support an outcomes approach to health services accountability. However, this thesis has identified a number of considerations

about accountability structures, relationships and stakeholders that require clarification to implement any useful or meaningful accountability system.

The question of ‘what’ information to collect has not been adequately addressed. At the clinical level, there are still difficulties defining who community and allied health practitioners are, what it is that they do, and who they do it for – quite aside from the issue of how effectively they perform their roles and how to demonstrate this. These problems are not unique to ACT Community Care or the Department of Veterans’ Affairs, and as the study by Flynn shows, not unique to the Australian health care environment. Additionally, the value of the data collected under the ‘accountability’ label and to whom it has value requires a great deal more investigation at all levels of health service delivery.

6.7 Conclusion

This chapter has presented a cross-case analysis of the Department of Veterans’ Affairs and ACT Community Care application of the health outcomes approach to community and allied health service accountability. Whilst each case alone presents a valuable example of the application of the use of health outcomes, the cross-case analysis has highlighted a number of common issues that need to be considered in the development of new accountability structures. Chapter Seven concludes the thesis by readdressing the research questions and examining the relevance of the findings to a range of stakeholders.

7 Conclusion

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7.1 Introduction

In this thesis I have used case study analysis to examine the previously unexplored application of health outcomes to community and allied health service accountability in Australia.

Chapter Two demonstrated the perceived need for purchasers, funders, providers and managers to embrace new mechanisms of accountability, and the appeal of health outcomes for this purpose.

The case studies illustrated two organisations that have attempted use health outcomes to hold health service providers accountable. In Chapter Six, I identified that within the purchaser – provider context, there are a number of stakeholders, but two important accountability relationships. The first is professional accountability, which is the accountability of the provider to identify, and where possible, achieve the optimal outcomes for the patient. The second is contractual accountability, which is the agreement between the purchaser and provider to achieve specific, contractual outputs. Health outcomes clearly form a component of professional accountability, but in order to use health outcomes in contractual accountability, a number of conditions must be met (accessibility, attribution, define the intervention, measurement of health status). Where these conditions cannot be met, other indicators may be required to illustrate health service effectiveness.

In this chapter, I revisit the research questions in light of the results derived from the case studies and their analysis. I discuss the implications of the research findings for health service provider accountability and the significance of this for a range of stakeholders. The chapter concludes with a discussion of the areas that may benefit from future research.

7.2 Conclusions about the research questions

Question 1. What are the barriers to the application of the health outcomes approach to health service accountability for community and allied health services?

The emphasis on organisational accountability is inescapable within the current climate of neo-liberal governmentality. As a result, community and allied health service providers are expected to find accountability mechanisms that can be specified in purchasing contracts. Accountability implies the extraction of simple indicators from different levels of the organisational hierarchy that reflect what was done and how well it was done. The audit of these items is described as the *rituals*

of verification, where the actual item themselves cease to be important, but the monitoring of them becomes the public display of organisational accountability (Douglas 1992). The use of health outcomes was one attempt to reduce the complex interaction of health service delivery to a single indicator.

Health outcome measures themselves are fraught with difficulties. This thesis has shown that health outcomes are not always an accurate reflection of what was done or how well it was done in the health service setting. The application of quantifiable outcome measures is of questionable value to clinicians and has significant resource implications. These factors are likely to reduce the incentive of clinicians to apply outcome measures in practice. Many community and allied health service interventions do not have a finite 'end-point', so it is unclear *when* outcomes should be measured. In some cases, the measurement of the outcome forms part of the next process of care.

The two case studies indicate that allied and community health service providers are generally not good at identifying what it is that the patient wants, or patient goals, and that they rarely document whether the patient goals are achieved. Since the health outcomes movement is based on the premise that the goal of health services is to optimise patient outcomes, health outcomes are obviously an important part of accountability within the patient – provider interaction. However, the statement at the start of Chapter One “if we can’t measure it, we can’t do it” highlights one of the unrealistic expectations of the outcomes movement. Health service providers are being asked to report on the measurable outcomes of their patient care, when in fact, in these case studies, they do not routinely document patient goals or the achievement of these. Additionally, the lack of classification systems means that defining the intervention that led to the outcomes is fraught with difficulties. Before outcomes can be measured, the condition and or the intervention needs to be defined.

The use of any single indicator, such as a health outcome, brings with it the risk of Goodhart’s Law, where the things that are counted count and what is not counted ceases to be important (McIntyre 2000). The case studies have demonstrated that accountability is multi-dimensional and stakeholders value different domains of accountability, therefore no single indicator can give the whole picture of health service effectiveness.

The emphasis on health outcomes has opened the Pandora’s box of the previously inscrutable patient-provider interaction. The health outcomes literature would have us believe that the application of ‘best practice’ and the resulting health outcomes are the most important component of this interaction. However, Codman and

Grimmer both teased apart this relationship to emphasise a much broader, and less mechanised approach to patient care that specifies the identification of realistic and achievable patient goals and reflection upon the methods used to achieve these goals by the provider (Codman 1916; Grimmer 2002).

Neither of the organizations studied had the systems in place to support the collection or collation of health outcomes data. Few clinicians were equipped to apply health outcome measures in their clinical setting. The organizations lacked the information technology and management support to ensure that the health outcomes data could be collected, extracted and aggregated. When health outcomes data were made available, it was difficult to use them in the way in which it had been intended. Outcomes data were not used to inform purchasing contracts in either case study, or to inform clinical practice. Indeed, sometimes the quantifiable outcome measures contradicted the narrative account of the patient.

The use of health outcomes in health service accountability is an attempt to reduce all of the components that go into the delivery of health care into a single outcome measure. Within this is an assumption that the inputs can be defined in some way, and that the outcomes can be accurately reflected in a single number or summary score. As the case studies have shown, a move to focus on the health outcomes of the patients in health care delivery is a good thing, as ultimately, health services are designed to improve the outcomes of the patients. However, the current emphasis on pre-defined health outcome measures reinforces the notion of the 'body as a machine' and the separation of diagnosis and treatment from the patient (Miller and Crabtree 2000). Health outcome measures may be an appropriate adjunct to determining the effectiveness of a health care intervention from the clinicians' point of view, but should not supersede the impression of effectiveness from the patient's perspective. Nor should health outcome tools come to define the important outcomes of care. If the purpose of the intervention is to provide some benefit to the patient, that benefit should be made explicit from the patient's point of view, and that should be the ultimate test of the effectiveness of any intervention. Unfortunately for managers, such outcomes rarely translate well into numeric indicators of effectiveness.

Health outcomes are an important component of community and allied health service provider accountability, but they are not *the* answer to health service provider accountability. They form only one element of the accountability framework, and within that framework they are an insensitive indicator of health service effectiveness if used alone. If health outcomes are to be extracted from the

patient - provider interaction, a number of conditions must be met, which leads to the second research question.

Question 2: What conditions must be met before health outcomes can be used in purchasing contracts for allied and community health services?

For health outcomes data to be reported meaningfully beyond the patient – provider relationship, they need to be reduced to numbers so that they can be extracted, aggregated and interpreted for reporting purposes. If health outcomes are to be used in purchasing contracts, four criteria must first be met:

1. The health outcome has to be measured and quantified;
2. The intervention needs to be defined;
3. The outcome of care must be attributable to the intervention; and
4. The outcomes data must be accessible.

As the analysis in Chapter Six illustrated, each of these points represents a large hurdle for community and allied health services at present. Given that health outcomes are only one component of health service accountability, it may be more practical, and pragmatic to expend resources on indicators of effectiveness that are meaningful and already accessible.

7.3 The implications for theory

In this section, I reflect on the implications of this research on the three important components of theory; health service accountability, health outcomes and community and allied health services.

7.3.1 Health service accountability

The new accountability mechanisms appear to be sanctioned at all levels of health service delivery and purchasing despite the increased scrutiny of providers, the burden on managers and the potential invasion of patient privacy. As Strathern points out, “*transparency of operation is everywhere endorsed as an outward sign of integrity*” (Strathern 2000:2). She goes on to say that the new systems of accountability advance important values, that is, responsibility, openness about outcomes and the widening of access. The result of the endorsement of the accountability culture is that health service providers *will* increasingly be held accountable for their actions. The growth of professional accreditation systems that providers voluntarily participate in reflects these values.

This thesis has highlighted a number of issues for the implementation of accountability systems within health service settings;

- *Health service provider accountability cannot be reduced to a single numeric output.* The purpose of this thesis has been to explore the role of health outcomes in health service provider accountability. Specifically, I have investigated the use of health outcomes in purchasing contracts. Health service providers are responsible for trying to optimise the health outcomes of their patients. However, to reduce the entire patient – provider interaction to a numeric summary of the patient health outcome ignores the many components that go together to produce that outcome. As the case studies have shown, health outcomes can improve irrespective of the delivery of an intervention. Conversely, patient outcomes can worsen through no fault of the health service provider. There are often a number of ways to achieve the same outcome, some more efficient than others. Health outcomes are clearly not the best or only indicator of health service provider accountability. As the literature has demonstrated, accountability systems are subject to the changing values of health service delivery, so the domains of accountability are likely to change over time. As a result, the way that the systems of accountability are established have the potential to drive (or reflect) what is important in health service delivery, although they do not seem to achieve this particularly effectively at present.
- *Health outcomes are an important part of health service provider accountability, but are not appropriate for contractual accountability.* To say that health outcome measures are not the best or the only indicator of health service provider accountability does not mean that they have no place in the delivery of health services. Providers need to know that they are achieving the outcomes of their care. They need to know whether the goals of the patient are being taken into account and whether patient expectations are being met. But, the provision of this information to another audience such as a purchaser takes the health outcomes information outside of its intended use. The extraction of outcomes data from within the clinical interaction normally requires the quantification of the outcomes. This is difficult to achieve in a meaningful way given the current limitations of many outcome measures and the paucity of evidence to support the majority of community and allied health interventions.
- The collection of quantifiable health outcomes data has major time and resource implications for health services. Given their current, limited value to many clinicians, managers and purchasers, health outcomes may not have the

intrinsic value that the proponents of outcomes based accountability assumed. In some cases, the measurement of outcomes can actually hide the reality of the outcome of the intervention for the patient and may be most effectively augmented by actually asking the patient and incorporating their perspectives into improving clinical practice.

- *There are a range of accountability technologies*, such as complaint mechanisms, surveillance systems, volumes and costs of health services, continuing professional education, registration, professional membership, qualifications and accreditation. The application of these technologies within community and allied health services are ad-hoc. The application of these technologies requires time and resources that could otherwise be committed to the delivery of health services, so the most effective method of implementation should be determined. The lack of a clear accountability framework that is underpinned by clearly defined goals and values has led to the indiscriminate use of a wide range of accountability technologies. If the accountability relationships were made explicit, and the goals of those relationships defined, it may be possible to select a clear range of accountability tools that would reflect what is actually happening, rather than measuring what can be measured.
- *Indicators are just that*. Indicators should provide a summary picture of a particular aspect of the health service interaction. They do not provide the full picture of any level of health service accountability, rather they are the ‘tip of the iceberg’ (Sharpe 2000). A range of indicators is likely to be required for different technologies of accountability. The indicators need to provide a meaningful reflection of the level of accountability they illustrate. It may be appropriate or necessary to augment the use of indicators with narrative and subjective input from stakeholders to give some level of meaning and value to the indicator data. In contrast to the value – neutral approach under which new-managerialism has attempted to employ new systems of accountability, which include health outcomes, health care delivery is not value neutral. The indicators and outcomes employed are a reflection of the values of the health system, and as the example of the Australian Health Care Agreements has illustrated, the indicators need to be able to respond to the new values of the health system. Thus, indicators are not stable entities, they need to reflect the values of the stakeholders at any given time.
- *Contractual accountability has the potential to impact on all levels of health care*. Neo-liberal governmentality is described as government at a distance, implying a ‘hands off’ approach to management. However, as the two case

studies have illustrated, the new accountability mechanisms have the ability to pervade the smallest level of patient - provider interaction, for example, by monitoring what is written in patient notes. The importance of providing this level of detail to a health service purchaser must be questioned. Instead, purchasers should ensure that the accountability *systems* are in place. In other words, the purchasers of health services ensure that the practices of self-checking are in place, and then withdraw control to the point where they are simply checking the resulting indicators of performance.

- *Accountability emphasises the systems of monitoring rather than necessarily the quality of patient care.* As Power said

what is being assured is the quality of control systems rather than the quality of first order operations. In such a context, accountability is discharged by demonstrating the existence of such systems of control, not by demonstrating good teaching, caring, manufacturing or banking. (Power 1994).

The relationship between the systems of monitoring and the quality of patient care is difficult to separate, and there is a risk that the systems of monitoring will become the way that organisations actually *define* good quality care.

Accountability, and the systems of ensuring accountability appear are an increasingly accepted component of health service delivery. Health outcomes, or indeed any single indicator, are unlikely to provide an accurate picture of what actually happens at the patient – provider interface. Instead, a number of approaches are likely to be required. Accountability systems have the potential to permeate the patient provider interaction, yet the value of the information extracted from that interaction does not necessarily reflect what or how good that care was. Neo-liberal governmentality has created a culture in which monitoring systems are necessary to extract indicators from various components of care. Community and allied health services have not developed clear or coherent methods of monitoring at this stage.

7.3.2 The influence of new systems of accountability on community and allied health service providers

Community and allied health services have evolved under a medical model of professionalisation and embraced (or been subjected) similar models of accountability to the medical profession, including registration and accreditation systems (Larkin 1983). The introduction of neo-liberal governmentality can potentially influence a number of aspects of health service provision which may

impact on the autonomy of health service providers (Borthwick 2000; Dent and Whitehead 2002).

The services examined within this thesis functioned separately from medical practitioners. Thus, my ability to elucidate on the impact of medical dominance on community and allied services from the empirical work was limited. However, I can comment on the implications of the introduction of new-managerialism for allied health service providers within these settings.

Under new-managerialism, clinical tasks, which were previously left to the judgment and expertise of the professional, are now more likely to come under external scrutiny from managers and professional bodies in the form of clinical audit and peer review processes. In situations where there is evidence to support best practice, professionals are likely to be held accountable on the basis that they deliver care in accordance with defined standards. Ironically, this means that disciplines that lack evidence to define best practice may be more able to reasonably rely on clinical judgment and reasoning than those disciplines with clearly defined protocols. In other words, the growth of evidence-based practice effectively reduces the clinical autonomy of professional groups with a larger body of research evidence.

Conversely, however, research evidence can increase the scope of practice of these disciplines by providing a clear basis for what works and what does not. New-managerialism moves the responsibility for outcomes and thus, control over the processes of care from professionals to managers. Presumably, if there are competing interventions and providers, the interventions with the greatest supporting evidence would win the support of funders, as was the case with podiatric surgeons obtaining NHS funding in the UK (Borthwick 2000). The implication of this is that the shift to a focus on quality and outcomes may impact on professional boundaries by allowing the discipline that has empirical evidence to show that it can deliver the best or cheapest care to provide an intervention, rather than the discipline that has historically controlled that corner of the health care market.

Professions seem willing, and even eager to participate in the new accountability technologies, as the growth of voluntary accreditation system in Australia demonstrates (Nancarrow and Clark In press). This has the double edged sword of providing an externally verifiable indicator of their fitness to practice, but also makes explicit the components of care which were previously implicit. This makes the professional roles more able to be monitored, is more likely to expose them to competition through the explicit definition of the roles, and in theory, easier to

manage. As Dent points out, being accountable on the basis of explicit technologies of care rather than on the basis of the trust that used to accompany professional prestige, automatically reduces one of the definitions of autonomy (Dent and Whitehead 2002).

Community and allied health services are potentially at a disadvantage in this approach because they lack the organisational and geographic boundaries imposed by the hospital setting. There appears to be less clarity about who these workers are and what they do (Brown, Crawford et al. 2000). The lack of clear definition around community and allied health practitioners makes the distinctions between the types of interventions difficult to clearly define. The types of interventions delivered in the community and acute setting differ also. Many interventions that are delivered in the acute sector appear to involve a single practitioner delivering a clearly defined, one-off intervention with a goal that is related to reducing impairment at an organ or tissue level or improving function. In contrast, community and allied health interventions can include a number of practitioners delivering care over an extended period of time to achieve a common goal. The setting of care may also influence the ability of workers to control their professional boundaries. Far more flexibility of roles is required to deliver care in a home environment than a hospital because of the lack of supporting technology and infrastructure. Further research is required to examine this point.

The values of the health system have, in part, been shaped by the professionalisation of medicine and the scientific approach to health service delivery. Thus, these two areas form an important basis for the new accountability structures, through the use of clinical practice guidelines and new systems of professional regulation, for instance. However, where medical dominance has largely defined the anglo-american systems of health care delivery to date, it is possible that the new systems of managerial accountability will be seen to define a new era in health service delivery.

7.3.3 Health outcomes

Health outcomes, in their current incarnation, arose from a desire to demonstrate that health services or health interventions are effective. Rigorous scientific methodologies are employed to measure the efficacy of surgical and medication based interventions. Some community and allied health interventions lend themselves to evaluation in this form, however many do not. This does not mean that all health services should not have some form of outcome. It does mean that not all health services have reproducible interventions that will lead to a stable and defined outcome.

Where interventions have been shown to be effective, it could be deemed that a provider is irresponsible if he or she uses an alternative intervention that has either not been validated, or is known to be less effective.

Health service providers are responsible for identifying and where possible, achieving, the realistic health related goals of their patients. They should not, however, be held responsible for the evaluation of the interventions. This would be analogous to asking pharmacists to evaluate the effectiveness of the medication they dispense from their pharmacies. Thus, different questions about the effectiveness of an intervention can be asked in a clinical setting to a research setting. In the research setting, it is feasible to quantify and compare outcomes between different interventions or on different patients. In a clinical setting, for allied and community health services at least, the provider needs to identify the patient goals and propose a mechanism through which those goals will be achieved that is based on research if it is available. The provider can then assess the effectiveness of care against the achievement of those goals. Quantifying the outcomes, unless it is a routine part of the evaluation of that intervention, (such as the 'timed ten metre walk' in physiotherapy) can detract from the overall delivery of the intervention. In many cases, it is a poor reflection of the outcome of care.

Health outcomes have reinforced the credibility of medicine, initially through medicine's ability to cure with penicillin and undertake pain-free surgery with anaesthetics. With this credibility has come professional autonomy. Paradoxically, when health outcomes are applied as a management tool they reduce the autonomy of health service providers substantially through the application of clinical practice guidelines, the introduction of surveillance systems and the need for continuing education to learn the new techniques that the latest outcomes research have demonstrated. This application of self-imposed control mechanisms further emphasises Strathern's point that transparency of operation is endorsed as an outward sign of integrity.

Community and allied health services have not embraced the culture of research and evidence to the same extent as the medical profession. As a result, it is now more difficult to hold these professions accountable with the same level of scrutiny that can be applied to medicine. Allied and community health services are described in the literature as being subordinate to and less autonomous than medicine. The slow development of an 'outcomes culture' has meant that community and allied health service providers have far fewer formal mechanisms of accountability than medicine. For instance, continuing professional education is not compulsory for all community and allied health service providers, whereas

general practitioners must maintain minimum standards to retain vocational registration in Australia.

The relationship between health service outcomes, processes and structures underpins the Donabedian systems approach to quality. This model is appropriate in settings in which the intervention and the outcomes can be clearly defined and there is a demonstrated, attributable relationship between the two. However, the difficulty clearly defining community and allied health service interventions, measuring the intervention and then identifying any attributable link mean that this approach is not appropriate for many services. The emphasis on health outcomes in the two case studies appears to have come at the expense of the monitoring of health service processes, such as adherence to minimum standards of documentation, potentially undermining necessary areas of quality improvement.

The desire to improve health outcomes is presumably the reason that societies dedicate vast resources to the delivery of health systems and services. Health outcomes are used as a research tool to demonstrate the effectiveness and efficacy of a variety of interventions. It is in this role that health outcomes have the power to lend legitimacy to a range of interventions. Different parameters are required for their application when they are taken out of the research context and applied as a management tool. Health outcomes are necessary to determine whether an intervention was effective. However the meaning of this result is often lost if taken out of the immediate patient – provider episode of care. Instead, attempts to take health outcomes out of their clinical context have resulted in systems that hamper the autonomy of health service providers and redistribute resources towards monitoring and away from patient care, with an unknown benefit to the patient.

7.4 Implications for policy and practice

In this section I describe the implications of this research on the main stakeholders in the purchaser – provider accountability framework, namely; community and allied health services, patients, providers, managers and purchasers.

7.4.1 Implications for community and allied health services

The collective ‘community and allied health services’ is not clearly defined. Nor are the services delivered by each of the component disciplines. This definitional dilemma is compounded when services are delivered by multi-disciplinary teams of providers. One of the original problems highlighted in this thesis was the perception of health service providers that “if we can’t measure it, we can’t do it”. But, even more fundamental than our inability to measure health services is our

inability to define what community and allied health services actually do. The problem may be more accurately stated as ‘if we can’t define it, we can’t measure it’. Although, even if the intervention or the people who deliver it can be defined, there is no guarantee that the outcomes can meaningfully measured.

Many of the difficulties underpinning the health outcomes approach for community and allied health service providers stem from the lack of clear descriptions of the types of services delivered. In some cases, this is because the delivery of a particular health service is context dependent. That is, it relies on particular social, environmental or economic settings for its delivery. Consequently, it can be difficult for researchers to make generalisable statements about the effectiveness of care. The lack of definitional boundaries also makes allied and community health services difficult to evaluate. The multi-disciplinary nature of much of the care means that it is not always clear which parts of the care should be evaluated, or from whose perspective.

The limited research and evaluation culture within community and allied health services means that there is little evidence around which the processes of health care can be standardised. Thus, compared with medicine, it has been harder to hold community and allied health services accountable for the processes of their care.

Community and allied health services receive far less funding than their medical counterparts (Palmer and Short 1994). Therefore, the types of infrastructure necessary to implement the accountability systems are less likely to be available. This may also stem from an uninformed perception that community and allied health services are less invasive, and therefore less dangerous than medical interventions.

The costs of implementing accountability structures need to be considered. The implementation of systems and gathering of information is costly in terms of time and infrastructure. Where services are not specifically funded to provide this information, the cost of providing this information is likely to detract from the delivery of clinical care.

Finally, the question of ‘whose responsibility’ is it to implement the new systems of accountability needs to be addressed by each of the stakeholders in the accountability relationship. The Department of Veterans' Affairs did not believe that it was their role to introduce new systems of accountability to the providers whose services they purchase, believing instead, that it was the responsibility of professional bodies. ACT Community Care, as a large provider of services has adopted the role of implementing the new mechanisms of accountability, but they are still in the process of deciding what gets reported to whom. Professional

associations are starting to introduce accreditation systems. Registration Acts are under review in many Australian states, with an increased emphasis on provider accountability, patient safety, and an enhanced role of registration boards in the monitoring of providers. These changes further reinforce the culture of accountability in health care, whilst informally spreading the responsibility for the implementation of the accountability culture. Ideally, each stakeholder would identify their own area of accountability whilst recognizing the input from other systems of accountability. This thesis has contributed an understanding of the roles of each stakeholder in the accountability relationships within community and allied health services.

7.4.2 Implications for service users

Neo-liberal governmentality emphasises the role of consumers and stakeholders in public sector accountability. This is reinforced by the health outcomes movement which claims to increase patient participation in health care decision making (Greenfield, Kaplan et al. 1985; Ellwood 1988; Kasper, Mulley et al. 1992; Legg England and Evans 1992). The new accountability structures have the potential to bring benefits to patients in terms of better quality care, however the cost of these improvements are resource and privacy implications for the patient.

The potential gain for patients arising from the new accountability systems is an improvement in the quality of their care. For instance, the AHMS is a prescriptive guide for allied health providers that tells them what to do and what to document. Whilst adherence to these principles may not improve the health outcomes of the patient, the DVA steering committee agreed that these components should form the minimum standards of patient care. If indeed the content of the patient file is an indicator of the quality of patient care, patient care can be improved an enormous amount from its current status. The AHMS also encourages critical self-review by providers, which may lead to superior or more appropriate care by health service providers for their patients. Additionally, as professional associations move towards accrediting providers, health service providers may be more likely to attend training and be aware of recent technologies or better techniques. Thus, the introduction of such systems may lead to an improvement in the quality of patient care.

The new accountability systems may help patients to judge the attributes of health service providers. For instance, registration, or accreditation of certain disciplines informs the patient that the health service provider has complied with certain regulations that are considered valuable by that profession. The meaning and value of accreditation and registration will need to be communicated to consumers so

they are better able to use this information. The current accreditation systems for allied health service providers vary greatly, and most have not incorporated the values of service users in their development (Nancarrow and Clark, in press).

There are potential costs for patients of the new accountability systems. There may be an increased response burden for the patients. For example, many health service organisations send surveys to their patients to obtain feedback on their satisfaction with services (Williams 1998). Health outcomes information is normally examined in the context of information about the patient, such as demographic and other health details. Where this information is extracted in a research setting, patients are required to provide informed, written consent, and the methodologies have been passed by ethics committees. The extraction of health outcomes data from clinical records is generally regarded as 'quality improvement' and no ethical approval or patient consent is sought. Some providers involved in the case studies saw the extraction of patient data as a breach of confidentiality. This issue will need to be addressed by institutional ethics committees.

In some cases, the changing accountability systems that emphasise patient control represent a paradigm shift for patients. For example, some veterans expected the health service provider to make decisions about the goals of their care, whereas the new accountability systems require patient input into decision-making. The changing role and expectations of consumers within the health system is likely to take some time to actually change consumer practices and expectations.

The new accountability systems are not limited to ensuring health service provider accountability. They have the potential to influence patient accountability as well. This was illustrated by the veterans who did not want to set measurable goals because they knew that their health service entitlement would end when they achieved a certain health status.

The information imbalance between health service providers and patients will be difficult to redress, however the new era of accountability espouses the values of transparency and openness about outcomes that may lead to better informed consumers (Strathern 2000). The model of political accountability described by Emanuel (Emanuel and Emanuel 1996) is one way to ensure increased patient or community involvement in the decisions about the important domains of health service accountability.

7.4.3 Implications for clinicians

The new systems of accountability have created a culture in which the patient-provider interaction will systematically come under external scrutiny. Allied health

professionals have largely relied on systems of trust and professional honour, with little transparency at the level of the patient- provider interaction. The new models of accountability have been seen most prominently in the public health service sector. However changing registration acts and interest in accountability from large purchasers such as DVA and health insurance companies means that private providers will not be immune from new accountability pressures.

Clinicians are already experiencing the scrutiny of the new accountability changes. Anecdotal evidence from the clinicians both within ACT Community Care and the Department of Veterans' Affairs indicates that they feel increasing pressure to produce measurable outcomes of their care, as indicated by the title of this thesis. But it is not just health service purchasers who are demanding more accountability. The legislation around professional registration in the ACT is currently under review, with the new models proposing the increased governance powers of boards to monitor the activities of health service providers. A number of professional associations have introduced voluntary professional accreditation systems.

This means that under new accountability models, professional bodies have to define exactly what is expected from clinicians in terms of their provision of care to patients. The Grimmer and Codman approaches have done this to a certain extent. The move to embrace health outcomes emphasises one component of provider – patient accountability. Unfortunately, it is not an easily accessible indicator, nor the only measure of the effectiveness of the patient-provider interaction.

The results of the two case studies indicate that allied and community health service providers are not very good at identifying or documenting the goals or outcomes of their patient care. Yet before health outcomes can be used for reporting purposes, the provider actually needs to determine what the outcome is and document it.

However, the results of this thesis indicate that there is a long way to go before health outcomes will be a feasible basis for reporting on health service provider accountability. Meanwhile, there is a need to identify other, more appropriate indicators that have some meaning and value to the range of stakeholders for whom they are intended.

The implications for clinicians are that their clinical interactions are likely to become an increasing focus of health service accountability, instead of health service volume and throughput. For professional groups to adhere to these systems, they first need to define what constitutes quality clinical care, in consultation with both patients and the literature. They should then determine how they will adhere

to these levels of quality and monitor it. Clinical pathways are one example of prescriptive models of health service delivery in action. But again, as the case studies and the literature have demonstrated, unless providers are made accountable for these in some way, they will not use them.

The ACT Community Care case study highlighted the potential for conflict between the domains of professional accountability and contractual accountability. Professionals working in particularly sensitive fields, such as alcohol and drug services or with victims of crime, may see that the documentation of the all of the information about the patient may place the patient at risk. However, if audit procedures examine rates of adherence to documentation, then the provider may be seen to be 'non-compliant'. The mechanized nature of audit does not allow for the prioritising of clinical judgement in these cases.

7.4.4 Implications for managers

The case studies have illustrated two different models of health service delivery. The first relies on a hierarchical management structure and includes 'line' managers (ACT Community Care) whilst the second involved individual purchase agreements between a large health service purchasing organisation and individual providers. The latter model excludes the management tier in the purchaser – provider framework so the managerial implications are limited to the first model of service delivery.

Where managerial structures exist, the responsibility for implementing the new systems of accountability is will fall onto the managers. Indeed, their roles are likely to be defined by these new accountabilities. Their tasks are likely to include the implementation of appropriate structures, such as reporting hierarchies, information technology and classification systems to facilitate the flow of accountability information. Managers will also need to clearly delineate the roles of each of the stakeholders within the accountability framework, and establish the domains and procedures of accountability to facilitate reporting on these. Managers, along with professional bodies such as associations and registration boards, are likely to be in the strongest positions to define exactly what constitutes accountability of health service provision.

Managers and purchasers would be better served by examining the many existing and evolving systems of allied health professional accountability, such as accreditation, rather than attempting to introduce additional, resource intensive tiers of provider monitoring. This will promote the valued principles of helping / monitoring people to help / monitor themselves. Purchasers can maintain arms

length management and uphold the public perceptions of accountability through the rituals of verification. The risk of this approach is that the quality control systems become the focus of accountability rather than the first order operations, in this case health care.

7.4.5 Implications for purchasers

The new systems of governmentality have been described as achieving their objectives through ‘action at a distance’ (Miller and Rose 1990). In other words, systems are implemented that seek to bring the organisation, or in this case, health service providers into line. In this study, both purchasing organisations expected that they would be able to obtain health outcomes data. As this study has shown, the focus on health outcomes led to increasing scrutiny on the smallest components of the patient – provider interaction. Despite this, neither purchasing organisation achieved their goal of actually accessing health outcomes information. To feed this information, in its minute detail to the level of the purchaser is likely to be costly, time consuming, and largely irrelevant

That DVA (the purchaser) employed an external consultant to identify health outcome measures that they could include in purchasing contracts and ACT Community Care (the provider) was put in the position of having to identify health outcomes on which it could report highlights one of the idiosyncrasies of purchaser-provider separation. That is, the purchaser generally does not have the knowledge to make informed decisions about the services it is purchasing, so the onus moves to the provider, or other bodies to develop the domains of accountability.

The purchasers, in both case studies, could have simplified their own requirements for professional accountability by exploring the accreditation systems already implemented by professional associations. By purchasing the services of accredited providers, they are accepting and endorsing the standards that professions believe indicate quality health service provision. It also removes the burden of responsibility from the purchaser to introduce costly infrastructure for the collection and monitoring of the domains of accountability.

The purchaser, as a representative of the community, should have some clear priorities about what constitutes ‘good’ care, as they are acting as a proxy consumer. In reality, however, purchasing priorities are poorly defined and the provider, not the purchaser, often determines the allocation of resources.

7.5 Areas for future research

In undertaking this research, I came across a number of areas that require further exploration including; a need for a greater understanding of patient constructions of quality care, the need for a clear history of the development of allied health services in Australia and their role with respect to medicine, which could, in turn lead to new methods of evaluating the effectiveness of allied health care, and the need for further investigation into community and allied health service classifications.

The focus of this thesis has been primarily on health service purchasing and providing organisations, largely ignoring the most important participant in the delivery of health services – the patient. Despite the growing consumer movement, this study has found that providers demonstrate poor levels of accountability to purchasers *and* patients using current definitions of accountability. Further study into the expectations of patients regarding health service provider accountability and how patients judge the effectiveness of the care they receive would be valuable to inform the professional accountability argument. Additionally, given the current focus on patient empowerment, such a study would give patients the tools they need to guide their own informed decision making about health service selection. This information could be used by the organisations that purchase health services on behalf of patients to guide their purchasing and accountability decisions, rather than leaving the development of indicators up to the health service providers (as was the case with the ACT Community Care case study).

In undertaking the background review for this project, I attempted to find literature on the history of the development of community and allied health services. As indicated in Chapter Two, this group of providers is poorly defined and has dynamic boundaries according to pragmatic and contextual needs. The literature on allied health services is largely fragmented according to disciplines and historical information was difficult to find. A documented history of the development of all allied health service providers in Australia would be a valuable tool to both unify allied health service providers, and strengthen their own identity in the field of health service delivery.

The inconsistencies in the accreditation systems for allied health service providers have the potential to confuse both patients and purchasers (Nancarrow and Clark In Press). Different disciplines have quite different accreditation standards. Allied health providers may benefit from the systematic examination of all the allied health accreditation systems and the development of a unified set of standards. The

introduction of minimum 'allied health' accreditation standards would establish a common basis that patients and purchasers could identify with.

The well-documented perceptions of medical dominance and allied health subordination calls for the deconstruction of the concept of 'medical dominance'. An empirical investigation of the domains of dominance beyond the well described aspects of autonomy, income, gender balance and accountability would provide a greater understanding of the relationships between different health service providers, their self-perceptions and their status within the community.

As both case studies demonstrated, there is a paucity of quality evaluations of community and allied health interventions across most disciplines. There is a need for allied health service providers to undertake quality research of the effectiveness of the majority of their interventions. Although, it needs to be recognised that not all community and allied health service interventions fulfil the traditional medical model because of the large contextual differences in the application of many of these interventions. Therefore it would be useful to explore different methodologies for the evaluation of community and allied health interventions.

Two recent initiatives have explored allied health classifications; the National Allied Health Casemix Committee Indicators for Intervention and the National Codeset Project: Community Based Health Services (National Centre for Classification in Health 1998; National Allied Health Casemix Committee 1999). However the recent development of both projects means that neither have been tested or applied within the community setting. The case studies highlighted some of the barriers to the classification of community and allied health based interventions and I believe this area would benefit from investigation in a range of health settings.

Finally, one of my most valuable resources in the write up of this thesis was a book by Marilyn Strathern, titled "Audit Culture", which is an anthropological study of the effect of the new systems of accountability on higher education. There are a number of parallels between the adoption of neo-liberal governmentality in the health and education sectors. A juxtaposition of the approaches used in both health and education may benefit both fields through a sharing of problems and achievements. Additionally, a more detailed anthropological view of the adoption of neo-liberal governmentality in health, the resulting mechanisms of accountability and their effect on the delivery of health services would help to contextualise the current changes for health service providers.

7.6 Conclusion

This thesis has examined the role of health outcomes in community and allied health service accountability. Accountability is an expanding and evolving requirement of stakeholders at all levels of health service delivery and funding. The application of an accountability framework to the outcomes approach has clarified the role of health outcomes within accountability structures for community and allied health services. The directive to use attributable health outcomes as an accountability framework within a purchaser – provider model is a misconceived management strategy.

Health outcomes do have their place in health service accountability, but only as one of many indicators of health service quality and effectiveness. The current limitations around attribution, data accessibility, defining community and allied health service interventions and identifying appropriate measurement tools means that health outcomes are not an appropriate mechanism of contractual accountability.

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Appendices