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The role of allied health in the management of complex conditions in a comprehensive primary care setting

Geoffrey Mitchell¹, Hugh Senior¹, Michele Foster², Ian Williams⁵, Jan Chaffey⁵, Robyn Chambers⁵, Tim Henwood³, Christopher Freeman^{4,5}

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CONFLICT OF INTEREST DECLARATION

Senior Clinicians and managers of CHHC were part of the research team. The protocol, data collection, analysis and reports were conducted independently of the practice by research staff of the University of Queensland

¹Discipline of General Practice, School of Medicine, ²School of Social Work and Human Services, ³ School of Nursing and Midwifery, ⁴The School of Pharmacy, The University of Queensland, ⁵Camp Hill Healthcare

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Discipline of General Practice

School of Medicine

The University of Queensland

Brisbane QLD 4072

Australia

T 61 7 3381 1363

F 61 7 3381 1356

E g.mitchell@uq.edu.au

W www2.som.uq.edu.au/som/OurSchool/Disciplines/Pages/GeneralPractice.aspx

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Chapter 1 Introduction and literature review

1.1 INTRODUCTION

Chronic and complex diseases by their nature require complex care. Much of the care is delivered in the community, by primary care professionals- medical, nursing and allied health. For full definitions of Primary care, Allied health professionals (AHPs), and definitions of selected AHP's, see *Appendix 1*.

Primary care delivery of multidisciplinary teamwork is the cornerstone of many health systems.(1) Recent advances in primary health care policy have allowed limited Medicare funding of allied health professionals (AHPs). AHPs have well documented roles in the management of many chronic conditions. Access to their services within the community is more limited because community AHPs are largely in private practice. Without funding support, the cost of attending AHPs is borne by the person with the condition.

Government policy promotes multidisciplinary care. For example, Australian Government funded superclinics are primary care clinics expected to provide exemplary, multidisciplinary care under the one roof. These are currently being established. Camp Hill Healthcare (CHHC), in Brisbane, has functioned in this way for about ten years. It is a large practice with a patient list of 38,000. The health professional staff comprises 15 general practitioners (GPs), two community nurses¹, a diabetes educator, a consultant pharmacist², and two mental health nurses employed in addition to the clinical nurses and administrative staff found in most general practices. In addition it refers work to independent providers. It also has a culture of quality assurance and participating in research. As part of this work, the clinic has recorded every health assessment delivered over a six -year period, to people over 75 yrs deemed as a complex case, thus providing a unique opportunity to evaluate aspects of primary care delivered to older adults with complex care needs. Extensive use is made of a trained community care nurse, who acts as a care coordinator and case manager for older people, and adopts a comprehensive and systematic approach in assessing and recording patients' current health issues and referrals to meet those needs. Her task is guided by an electronic review guide, which ensures that all relevant factors are considered. A report is generated which is scanned into the practice record, and sent to various health professionals if a GP management plan is generated.

This report is a descriptive, mixed methods study which describes the role of allied health practitioners (AHPs) in the management of Australians aged 75 years and over with complex or chronic illness in primary care. The project seeks to answer the following questions³:

- > How do patients and health care professionals view the role and benefits of allied health in the management of complex conditions?
- > How does the role of allied health operate and interact within the comprehensive primary care setting to influence the management and outcomes of patients with complex conditions?
- > What is the optimal funding and organisational model to support the role of allied health in the management of complex conditions within comprehensive primary care settings?

¹ Community nurses have expertise in assessment of clinical needs of vulnerable people living in the community, and are expert in sourcing appropriate community supports.

² The role of this pharmacist is to provide advice to patients and staff, and implement quality improvement processes around medicines management within the practice.

³ The original proposal had seven objectives, which were collapsed to these three questions.

For purpose of this study, allied health is defined as health professionals commonly utilized, in the care of chronic illnesses and covered under Medicare. These disciplines include audiology, chiropractic, diabetes, educator, exercise physiology, physiotherapy, occupational therapy, dietetics, podiatry, speech pathology, osteopathy, pharmacy, psychology and social work. Community nursing is funded through the general practice funding of chronic disease management. Mental health workers and psychologists were not included because they are usually funded under a different government scheme. An economic analysis was not included in this study.

1.2 BACKGROUND

1.2.1 A conceptual framework describing teams in health care.

The basis of teamwork, according to D'Amour (2), comprises five common themes: sharing, partnership, interdependence, power and collaborative process. The degree to which the partners share information, decision-making, tasks, and responsibility, determines the model of teamwork employed.

Boon(3) describes seven types of team health care practice: The first three of these terms refer to a form of practice where the members of the treating team act autonomously with varying degrees of communication.

- > Parallel practice indicates people working independently, keeping to their own scope of practice.
- > Consultative practice involves the sharing of information on an as-needed basis, but not necessarily sharing the care of the patient. Each is still completely autonomous in their interactions with the patient.
- > Collaborative practice indicates that some form of formal interchange of information takes place on an ad hoc basis.

The remaining four represent increasing integration of team members, and blurring of roles in decision-making and service delivery.

- > Coordinated care requires sharing of records as well as intentionally working with each other in the care of the patient.
- > Multidisciplinary teamwork refers to situations where several different professionals work on the same project but independently or in parallel.(2) There is a team leader, but each team member still operates independently with little or no connectivity. The team leader issues orders and others carry them out. The professionals work on their own and make relevant, independent decisions without reference to the team leader or other team members.
- > Interdisciplinary teamwork implies that, in addition to working towards a common goal for the patient, there is a significant degree of shared decision-making and shared responsibility among the team members. There is a strong understanding of the skills and abilities of the individuals and professions within the team.
- > Trans-disciplinary teamwork not only shares responsibilities, but members share tasks. Hence there is a willingness to cross professional boundaries to the extent that the boundaries melt away.(2)

The patient should be a key member of the team.(4, 5) In complex care, it is also understood that patients take ultimate responsibility for working towards their own health. They have a role in determining the type of care they require, and ultimately how much and how that is care is delivered.

1.2.2 Critical determinants of how teams work

Teams operate best if there is an appropriate level of shared decision making, shared responsibility for the decisions, and clear articulation of the roles each person will undertake. Adequate opportunities to communicate and, understanding of and respect for the skill-sets of team members(5), followed by negotiated roles for the different team members are critical elements of a successful team.(6)

1.2.3 How health care professionals work in teams

Attempts to develop multidisciplinary teams in primary care have occurred in many countries. The literature shows that implementation of multidisciplinary care has met with limited success. There are several issues that have contributed.

1. The Medical profession has traditionally taken the lead role in the care of patients, and there is considerable resistance to this changing. This was most strongly noted in the following quote from Soklaridis et al's qualitative study:

“But we are talking here about a major shift in the working relationships between physicians and other disciplines. And coming from a nursing perspective, this is a 150-year-old problem. And there has to be a will on the part of medicine to give up power; it is not really giving up power, but that's the way they will see it.” (7)

Soklaridis further states:

“The medical profession has provided guidelines to its members to ensure that delegating an act does not compromise a doctor-patient relationship. Thus, the wider medical profession has, through its organisations, influenced policy to remain in the leadership role.” (7)

Prior to working with AHPs, there is evidence of limited understanding by GPs of the roles and capabilities of AHPs, which influenced the extent of their collaboration and referral behaviours.(8) GPs in Australia have interprofessional relationships within the practice, but little direct involvement with health professionals outside the practice.

2. Practice organisational issues.(9) The ability of the doctor and other health professions within the practice to participate in effective teamwork is influenced by economic and organisational roles. AHPs that operate privately, independent of the general practice, report another set of limitations to the degree to which they can participate in shared decision making.(10) This includes the need to provide the service the GPs is expecting, because the AHP depends on the GP for referral business. There is also administrative work, which is required to meet Department of Health requirements to achieve Medicare funding. This is paid for through Medicare for the GP, but not for the AHP providers. (11) Hence while this hub and spoke model is appropriate for the current funding arrangements for AHPs, it creates tensions because of the unevenness with which it treats GPs in comparison to AHPs.

3. The attitudes and experiences of the AHPs. AHPs who demonstrate patient centeredness, a willingness to involve other health professionals, knowledge of the needs of the client group, and are willing to follow patients up and be patient advocates will contribute strongly to team care.(9) There is considerable willingness to participate in multidisciplinary care.(12) AHPs in private practice are willing to participate in chronic disease management through Medicare, but are torn between the desire to help individuals in financial need, with the need to run a viable business.(13) Sometimes AHP perceptions of their own role are challenged by opportunities to work within general practices. For example, the predominant role of community pharmacists in England was considered to be dispensing. There were fears that co-locating within GP surgeries would lead to inefficiencies and errors in

dispensing. However, as the role evolved, pharmacists have taken on a more consultative model and have broadened their perceptions of their roles and that of the GP.(14)

1.2.4 Teamwork in Australian General Practice

The Australian Government has released a guiding document on primary care policy – the National Primary Care Strategy.(15) Primary care is to be patient-centred (Element 2) and “Well-integrated, coordinated, and providing continuity of care, particularly for those with multiple, ongoing, and complex conditions” (Element 4) (15)

General practice has also been placed at the centre of primary care management of chronic and complex care. Australian health policy has been working towards integrated and coordinated primary care for some years. In 1999, the Enhanced Primary Care (EPC) reforms (16) were introduced, which enabled General Practitioners (GPs) for the first time to be paid for case reviews, and care planning.

In 2005, the importance of AHP in chronic disease management was supported by limited Medicare funding. Medicare will fund five AHP visits per annum, accessible if there was a chronic disease, and if a comprehensive care plan had been initiated by the patient's GP.(16) The GP effectively has the role of multidisciplinary team leader, with the responsibility of determining which AHPs would be brought in to a patient's care, and how many of the five Medicare funded visits per annum would be allocated to each.

This initiative therefore tacitly supports a hub and spoke model centred on the GP. The designated role of GPs as team leader of multidisciplinary teams requires of them both the skills to work with other professions, and in particular the need to fully understand the capabilities of other AHPs in order to harness them for the betterment of their patients. The funding rules indicate that a management plan is not complete until interprofessional consultations have been completed with all the treating AHPs. However, there is little if any true consultation takes place between the AHP and the GP(10), and none between AHPs. There is considerable frustration on the part of AHPs about the level of powerlessness this arrangement forces on them.(10) There is a clear sense that they are undervalued by Medicare at least.(13) Furthermore, the opportunities to consult with other AHPs on cases is virtually nonexistent.(10)

To what extent is this GP-centric, hub and spoke model appropriate? From one perspective it is appropriate, because it is the responsibility of the doctor to make diagnoses, and initiate drug and other therapies where appropriate. GPs describe a “biographical” role for themselves, where they have developed knowledge of the individual's personality, family and personal circumstances, and responses to previous treatments over a long time.(17) This should ensure that current treatment decisions are likely to be appropriate for that person. However, by not sharing the decision-making responsibilities, doctor's risk offering the patient less than optimal treatments because their knowledge of what AHPs can offer may not be complete.(18, 19)

1.2.5 Problems with the current situation

The current policy position mitigates against higher levels of interdisciplinary and transdisciplinary teamwork, without the GP deliberately taking steps to improve team functioning. This policy generates significant issues for AHPs because the limited Medicare funding forces them into choosing between treatments limited to Medicare funding but often well short of evidence-based best practice, or best practice and forcing a price on the services not covered by Medicare.(11) For older people with chronic or complex conditions, Medicare funded visits support a fraction of the care that many need. They are then forced into choices between paying for treatments out of their own pocket or not, and prioritising treatment choices, choices that are not always made in a rational, predictable way.(20)

Chapter 2 Methods

2.1 METHODOLOGICAL APPROACHES TO ADDRESS RESEARCH QUESTIONS

The three research questions are to be answered by the various approaches described in the methods section, specifically:

- > **How do patients and health care professionals view the role and benefits of allied health in the management of complex conditions?**

Patients who have the index condition will be purposively selected from the CHHC 75+ database and be invited to qualitative semi-structured interviews in their own home. Allied health professionals (both internal and external) and GPs will be interviewed by qualitative semi-structured interviews within focus groups. Senior Practice Management will be interviewed by individual face-to-face semistructured interviews. See *Appendix 2* for interview schedules.

- > **How does the role of allied health operate and interact within the comprehensive primary care setting to influence the management and outcomes of patients with complex conditions?**

The CHHC +75 database and patient medical records will be analysed to describe the patient population, the management of the condition and the referral patterns to AHPs. Allied health professionals (both internal and external) and GPs will be interviewed by qualitative semi-structured interviews within focus groups. Senior Practice Management will be interviewed by individual face-to-face semistructured interviews. The literature review will also inform this question.

- > **What is the optimal funding and organisational model to support the role of allied health in the management of complex conditions within comprehensive primary care settings?**

Allied health professionals (both internal and external) and GPs will be interviewed by qualitative semi-structured interviews within focus groups. Senior Practice Management will be interviewed by individual face-to-face semistructured interviews. The literature review will also inform this question.

2.2 SELECTION OF PARTICIPANTS

2.2.1 The CHHC 75+ database

The CHHC 75+ database is a longitudinal database of older people, who have a complex or chronic disease. CHHC has systematically identified older patients with complex needs and systematically conducts Health Assessments. Patients are selected if they required at least one long GP consultation to manage their problems. The content of these 75+ Health Assessments are entered into a purpose-designed database, along with recommendations for subsequent management plans and team care arrangements. The majority of assessments are taken at older people's homes who are aged at least 75 years, by a Community Nurse employed by the practice. Patients younger than 75 years have been assessed if there is an indication or a request from the older person's GP. People living in permanent residential aged care were not eligible for the 75+ assessment and accordingly for this study. The database to 31 December 2010 was used, and represents six years of data collection.

2.2.2 Patients with index conditions

We used the CHHC 75+ database to identify patients with index health conditions, namely, osteoarthritis (OA), diabetes mellitus type 2 (DM) and urinary incontinence (UI); to identify the type of allied health services individual patients were referred to, and, if possible, track changes in pragmatic health outcomes for individuals. Arthritis was chosen because it represents the most common chronic condition, DM because of its major policy focus, and UI because it is a largely hidden, complex condition. For the index conditions, additional data were obtained from the practice medical records of the participants of the qualitative interviews.

The qualitative component included 30 patients, with 10 patients purposively selected from within each index condition. This approach and sample size is acceptable in this case since the aim was to focus in-depth on patient experiences of a discrete type of service delivery. Participants were purposively selected using a matrix to achieve information-rich cases based on dimensions such as gender, age groups and healthcare funding sources (Medicare, private health insurance, DVA). The last assessment was selected to ensure the data were from a time period as close as possible to the data obtained by the qualitative interviews. For a number of variables, data were compared with the patient's first assessment to identify changes over time. Community nurses assisted with recruitment by identifying eligible patients and inviting participation by letter. Interested patients were contacted by phone to determine their willingness to participate. Participants provided informed consent for data to be obtained from their medical records, to undertake a qualitative interview and for the health professionals providing their care to be interviewed about their care.

2.2.3 Data management

All quantitative data from the CHHC were de-identified and imported from MS-Access databases into SPSS statistical software (ver. 17.0) for analysis. Data were cleaned and free-text was categorised and coded. Ethical approval to conduct this research was provided by the University of Queensland Human Research Ethics Committee and the Blue Care Human Research Ethics Committee.

2.2.4 Qualitative interviews of index patients

Semi-structured interviews were used to explore patient views on the role of allied health in the management of chronic disease and their experiences of multidisciplinary care through CHHC, which incorporated allied health professional services. Participants were interviewed on one occasion in the community on key topics relating to the research questions, including understanding of care management; interaction with AHPs; barriers and facilitators to care access; and satisfaction with care. An interview guide was developed to ensure consistency of the topics explored. (21) Interviews were audiotaped and transcribed and a thematic analysis conducted. The 'Framework' method was used as a guide for the thematic analysis. (22) This method is particularly applicable to applied policy research. It involves researchers familiarising themselves with the data before charting chunks of data according to categories and sub-categories, and by respondent. This forms the basis for further inspection of the data to identify links, patterns and contradictions within and between responses. The next stage is identifying major themes within the context of the research questions and the relevant literature. In this case, familiarisation with the interview data and initial inspection of the data were conducted by a Research Assistant. Further inspection of the data to identify major themes links, patterns and contradictions within and between responses was then conducted by the Research Assistant in collaboration with one investigator (MF). The investigator then reviewed and refined the themes and ensured the quotations selected for presentation clearly reflected the themes.

2.2.5 Obtaining the views of Health professionals

Focus groups were conducted with GPs and AHPs working within the CHHC and also with AHPs external to the centre but who often collaborated with CHHC in the management of patients with complex conditions. Purposive sampling was used to recruit participants. Staff at the CHHC and a range of AHPs who interacted with the centre, currently or during the past 12 months, received an invitation to attend an information seminar about the CHARMS study. Following the seminar a letter of invitation was sent to select AHPs inviting them to participate in a focus group. The purpose of the focus groups was to gain an AHP perspective on the role of allied health and operation of multidisciplinary care arrangements for the management of patients with complex conditions. Three separate focus groups (GPs, internal allied health, external allied health); of eight to ten participants each were conducted to explore the following general topics: awareness and views on the role of allied health, experiences of multidisciplinary care (including processes of care planning, referral, and communication), barriers and facilitators of care, impacts on practice and satisfaction with multidisciplinary care approaches. All groups were held at the CHHC and were approximately two hours in duration. Discussions were recorded and transcribed and a thematic analysis conducted by one investigator (MF) and a Research Assistant, using the 'Framework' method as a guide.

The practice owner and the Executive Officer were interviewed individually. These interviews sought an historical overview of CHHC and explored some of the organisational and financing aspects of development and sustainability of the model. Each interview lasted about 50 minutes. The interviews were transcribed and analysed thematically.

2.2.6 Linkage and exchange

We developed an expert advisory group comprising representatives of AHPs, General practice providers, consumers and representatives from state and federal governments. Three face-to-face meetings were conducted to guide the direction of research, review progress and evaluating the final report and the policy recommendations that arose. Their role was to ensure that the overarching questions raised and the findings and directions developed were policy relevant. The recommendations in this report are based on the findings of the research and the discussions of the expert advisory group. The membership of this committee is found in *Appendix 3*.

Chapter 3 Findings

3.1 EXECUTIVE STAFF DESCRIPTION OF THE CHHC MODEL

In-depth interviews of the practice owner, Dr Ian Williams and the Executive Officer were undertaken to understand the characteristics of CHHC model and the role of AHPs in it. Dr Ian Williams is the sole owner of the practice. Mrs Jan Chaffey is the executive officer. The practice has evolved into a multidisciplinary practice over time, as opportunities to develop new services arose. There are now over 50 people working at the practice, including 15 GPs, nurses, a range of AHPs and administrative staff.

The themes that arose from these interviews were: practice organization; collaborative and inclusive management style; and Allied health professionals as valued contributors

3.1.1 Practice organisation

The practice considers that the patient is at the centre of all care that is provided, and all facets of the practice's activity. There is a set of operational principles that guide the practice:

- > Any developments must advantage the patient,
- > Any development must make the job of the GPs easier; and
- > The development must at least cover its own costs.

These principles and the model of care that arise from them are underpinned by management structures and procedures to ensure that sound processes are in place. There must be clear objectives and lines of reporting to ensure that the objectives of each program are met. The Quality Improvement cycle- Plan, Do, Study, Act – occurs routinely, so that the practice structures and procedures are constantly evolving. The practice has a deliberate policy of investing in adequate infrastructure and information technology that meets their operational capabilities and is reliable.

This management model and practice structure is expensive and cannot be supported by Medicare income alone. Hence the practice is a private billing practice. Pensioners and health care card-holders are offered a discount.

3.1.2 Practice collaboration and inclusiveness

Communication within the practice is carefully cultivated. Email is the usual communication. However, there are regular professional meetings of medical staff, nurses and AHP, and administrative staff. Dr Williams uses these meetings to facilitate decision making. If new proposals are assessed as meeting the principles described above, they are presented to the GP meetings. A proposal will not progress if the GPs do not wish it to. A business model for its introduction will then be developed. Dr Williams has the final say as to whether the proposal will be implemented.

The management of the practice has to be flexible to enable new services to fit into the practice. While a collaborative approach is used widely, having a single owner facilitates flexibility by ensuring that the final decision whether to proceed can be taken expeditiously. The whole structure must be able to adapt as well. Hence the EO position and the management structures described above have to be robust.

3.1.3 Opportunistic outlook

Dr Williams is a strategic thinker who has clear objectives for the practice. The multidisciplinary model has developed in response to patient need, but also takes advantage of developments in funding and opportunities that arise.

New programs and services arise when individuals come to the practice and present propositions. His reputation is such that people come to him with propositions for him to consider. They have never had to advertise for GPs or AHPs. Initially this took the form of several well-established GPs in the area wishing to join the practice, bringing with them their patient lists. This enabled the practice to develop critical mass sufficient to support high quality infrastructure and some in-house services. Individual health practitioners approached the practice with proposals. Some of these led to in-house AHPs, and others remained as external practitioners who developed relations with the practice.

In addition, Dr Williams and Mrs Chaffey are actively engaged in the profession in state and national organizations, and identify needs and opportunities as they arise. They are aware of programs and opportunities provided mainly with the Australian Government Department of Health and Ageing. Hence they can see the link between possible programs or professional skills becoming available, and needs that arise internally to the practice, or proposals that are presented to them

3.1.4 Commitment to Multidisciplinary care.

For multidisciplinary practices to flourish, the practice owners must have a clear commitment to support AHPs in the practice and without the practice. The size of a practice is not an impediment to enacting a multidisciplinary practice.

There is a mix of in-house allied health practitioners and external providers at CHMC. The practice develops services in response to patient need. AHPs are encouraged to interact informally with the practice's GPs, and contribute ideas for the betterment of the practice. AHP business models that arise take advantage of Medicare-related, and other funding opportunities.

It is critical to understand that establishing a new service such as an AHP or specialist mental health nurse has two phases. Firstly, the service is established to meet a need. There is an initial backlog of the need within the practice, which leads to a strong clinical caseload. However, after a period of time, the backlog is resolved, and AHPs can find themselves underemployed. It is essential to ensure that the AHP has clear roles and responsibilities that have tangible benefit to the practice. Work patterns and funding patterns are likely to need to change to facilitate these adjusted roles. Failure to plan for the second phase of the AHP role will lead to underemployed AHPs and dissatisfied practice owners.

3.2 THE CHHC 75+ DATABASE: DESCRIPTION OF THE SAMPLE POPULATION

Eight hundred and sixty eight patients have had at least one assessment. The mean age was 81.8 years (range 66-103 yrs). Table 3.1 displays the demographics at the first assessment. The term older people refers to participants aged 75-85 yrs and very old refers to people aged >85 yrs. The majority of patients are female (67%) and 22% are aged older than 85 years. On average patients had at least two assessments, with some patients having up to six assessments. This is due to assessments being need based rather than periodic, as such there may be a number of years between assessments. Table 3.2 shows the number of assessments over the period of six years. Full details are in *Appendix 4*.

Table 3.1: Demographics of Older People at First Assessment

Demographics	Total	Male	Female
Number of Patients (%)	868	282 (32.8)	577 (67.2)
Mean Age yrs (SD, range)	81.8 (4.8, 66-103)	82.0 (70-103)	81.8 (4.7, 66-98)
Aged 75-85 yrs (%)	656 (78.1)	217 (33.1)	439 (78.1)
Aged > 85 yrs (%)	184 (21.9%)	61 (33.2)	123 (21.9)
Mean No. of Assessments (SD, Range)	2.0 (1.2, 1-7)	2.1(1.2, 1-7)	2.0 (1.2, 1-6)

Table 3.2: Number of Assessments

Year	1	2	3	4	5	6
No. of Assessments	868	543	318	170	65	21
Percent	43.7	27.3	16.0	8.6	3.3	1.1

Living Situation and Housing

At least half of the older people (47%) were living with a spouse/de facto, 45% lived alone and seven percent with a sibling or child. Twice as many women lived alone than men (56% vs. 23%), and men were more than twice as likely to be living with a spouse (73% vs. 34%). Very old people were more likely to be living alone (55% vs. 42%). The vast majority owned their home (90%) with only eight percent renting accommodation.

Self-rated Health, Health Behaviours, Blood Pressure

Self-rated health was assessed on a Likert scale (poor, fair, good, very good, excellent). The median self-rated health was rated as good with 43% of respondents, while 47% rated their health as fair or poor. Ten percent rated their health as very good or excellent. Males rated their health as fair or poor slightly more frequently than females, and no difference occurred across the 75-85 and >85 age groups. Four percent smoked cigarettes and half of male and a quarter of female respondents consumed alcohol. Mean systolic blood pressure was 141mmHg (SD: 21 mm Hg) and diastolic BP was 73mmHg (SD: 11.4 mmHg). Females had a 10mmHg higher mean systolic BP than males. No difference occurred between age groups.

Leg Ulcers

Fourteen percent of all older people and 26% of the very old reported experiencing leg ulcers at any time in the past.

Arthritis (all Types) and Pain

On first assessment, 39% report current problems with arthritis (any type), back pain, pain with mobility or balance problems. The prevalence of arthritis in this cohort is significantly higher in females than males. The very old have slightly higher prevalence of arthritis. Less very old people have back or mobility pain than the older age group (25.6% vs. 47.0%).

For all participants, 20% report a current problem with pain from any cause. The mean score was 5.5 (SD = 2.5) on visual analogue scale with older people in both groups reporting pain up to level 10 (1= no pain, 10= worst pain imaginable). Mean pain score was slightly higher in females (5.7) than males (5.0), with no difference between age groups. Eighty-two

percent of referrals for mobility pain were to physiotherapy, with 16% referred to exercise therapy. Only 1.5% was referred to their GP or a medical specialist. The very old group had approximately half the number of referrals to exercise therapy than the older age group where 18% were referred.

Falls, Exercise, Sensory Impairment, Mobility, and Activities of Daily Living (ADLs)

Fifty-nine percent of older people, and 71% of very old people reported that they have experienced at least one fall at any time in the past. A third of the reported falls have occurred in the six-months prior to assessment. Of those who fell, 55% have experienced one fall, and 22% had at least three falls in six-months. Only 45% of older people participated in regular exercise, this decreased to 38% in the very old group.

A significant mobility deficit was reported by 40% of older people, and 76% of the very old. Of these, 20 % of the old and 24% of the very old were not confident with their mobility. This finding was similar between genders. Thirty-nine percent of older people use a mobility aid, of which 65% use a walking stick and 31% a walking frame. Of those using an aid, 58% required it all of the time, and 35% outside the house only.

There was a range of impairments in ADL activities. Forty-four percent were dependent on others for meal preparation, 86% for housework, and 43% for shopping. The majority was independent for bathing (88%); dressing (92%) and phone use (96%). Forty percent had a drivers licence, but it is not known if they drive.

Sensory impairment is prevalent with a quarter reporting visual impairment, and 35% hearing impairment. For people with sensory impairment, 30% were referred to an optometrist for an eye check, and 20% to an audiologist/ENT for a hearing test

Medication Review

The vast majority of patients (89%) knew why they were taking their medications. The community nurse referred overall 5.3% of people for medication review over the six-years of conducting assessments at people's homes. CHHC employed a practice-based consultant pharmacist in April 2009. He provided medication review either at the patient's home or at the practice according to patient preference. The number of medication review referrals from the community nurse increased substantially after his employment. Table 3.3 shows the level of understanding of medications and the referral pattern to a pharmacist from 2005 to 2010.

Table 3.3: Patients who understood the purpose of medications they have been prescribed and referral for medication review. The practice Pharmacist at CHMC began in April 2009.

	Mean	Mean (2005 to 2008)	Mean (2009 to 2010)	2005	2006	2007	2008	2009	2010
n	304	331	252	396	357	297	273	273	230
Patient understands the purpose of medications (%)	87.3	87.8	86.2	92.1	90.2	84.5	84.3	84.0	88.4
Referral for Medication Review (%)	5.3	1.9	12.2	2.1	1.7	2.3	1.5	12.1	12.2

Chapter 4 Patterns of service utilisation of index patients

4.1 THE INDEX CONDITIONS: DIABETES MELLITUS TYPE 2, OSTEOARTHRITIS, URINARY INCONTINENCE

Table 4.1 displays the demographics, living situation and housing of 29 selected participants with three index conditions. The last assessment was analysed as it allowed comparison with the qualitative data as they were chronologically closer. The first assessment was also analysed for referral patterns as it would be expected that referrals to AHP on the first assessment would be higher in order to manage the risk factors identified for the first time.

A full description of the health status of the three index conditions is found in *Appendix 5*.

Table 4.1: Demographics, Living Situation, Housing, funding source: Index Conditions

Characteristic	Diabetes Mellitus Type 2	Osteoarthritis	Urinary Incontinence
Demographics			
Female (n)	7	5	9
Male (n)	3	4	1
Mean age (SD) yrs at 1 st Jan 2011	81.6 (5.0)	82.9 (4.6)	82.7 (4.9)
Age Range (yrs)	74-90	75-91	76-91
75-85 yrs (n)	6	7	7
>85 yrs (n)	4	2	3
Living Situation			
Living alone (%)	37	37	50
Living with Spouse (%)	63	63	50
Housing			
Own House (%)	100	100	90
Independent Hostel Unit (%)	0	0	10
Funding Source			
Medicare (n)	6	1	1
Hospital and Extras Private Insurance ⁴ (n)	2	4	3
Hospital Private Insurance only (n)	1	2	1
Department of Veterans Affairs Gold Card ⁵ (n)	1	2	5

⁴ Extras includes Allied Health Services

⁵ A gold card entitles the holder to DVA funding for services for all health care needs, for all health conditions, whether they are related to war service or not.

4.2 PATTERNS OF SERVICE UTILIZATION

Most patients stated they understood why they were on medication. Most were referred to the pharmacist for a home medication review in the last twelve months, which was a large increase from their initial visits. This reflects the increased availability of a pharmacist for a medication review, reduction in delays getting a review, and training of community nurse and GPs by the pharmacist.

Only 10% of DM and OA patients stated they were independent with foot care, and most were referred for podiatry. Most had multiple visits, up to 13 in one case.

Seventy percent of the people with incontinence were referred to a continence nurse, which was a substantial increase on their first visit (10%). Four people with continence problems were referred to an Occupational therapist for home modifications. Forty percent of the group were referred to physiotherapy

Most patients with diabetes were overweight or obese. Six were referred to the diabetes educator by their GP, rather than the community nurse.

For all groups, there were few referrals to audiology or optometry, in spite of the high prevalence of self-reported hearing and sight deficits. Nearly all patients had regular contact with the practice nurse (i.e. not the community nurse) for a range of treatment issues.

For full details of patterns of AHP and nursing services, see *Appendix 6*.

Chapter 5 Patient views on allied health and multidisciplinary care

In this chapter, some of the overarching themes relating to patients' views on the role of AHPs and their experiences with the CHHC multidisciplinary comprehensive primary health care service are presented. Most patients were regularly in contact with one or more allied health providers, either through referral from CHHC or within the centre. Physiotherapy and podiatry, or in some cases both, were the most common types seen routinely by patients. These services were mainly accessed through the Chronic Disease Management (CDM) items, Department of Veteran Affairs, and private health insurance. Key themes relating to the role of allied health and patient experiences of multidisciplinary care at CHHC are discussed below.

Representative extracts are provided to illustrate the themes and are uniquely coded (with a numeric and diagnostic indicator) to indicate individual participants (e.g. P1DM, P2DM represent two different participants with diagnosis of Diabetes Type2; P1OA, P2OA represent two different participants with diagnosis of osteoarthritis).

Patients were generally positive about the role of AHPs in the management of their complex conditions. There was some slight hesitancy about therapeutic allied health services such as physiotherapy and podiatry, primarily due to decision-making and perceived utility. The role of the community nurse dominated discussions about allied health and it was clear that this role was critical in their overall positive evaluations of their care experiences. Aside from improving access to a range of health and social supports, the involvement of a community nurse provided an important point of reference for most patients.

"If we want something and we can't get it from anybody else, we know to get it from [nurse] and she'd organise it"(P1OA)

Patients were also highly complementary about the multidisciplinary model of care which exemplified CHHC and highlighted a diverse range of valued attributes. Although some participants commented specifically on positive relationships with individual health care professionals, valued attributes were described as continuity of care, accessibility, the physical location and convenience of a 'one-stop shop', home visits, respectful attitudes of staff, and accessibility and responsiveness of the health care professionals as a whole. The main negative comment about CHHC related to waiting times. The following extract captures some of the attributes valued by patients interviewed in the study.

"The professional service that you get from anybody that is associated with that clinic and the ...other most important thing is what we're talking about, it's a one stop shop. There's a big team working across a whole broad range of the patients health care needs...it's as broad as you could possibly go and it's going to get broader and that's what I like about it. It's a one stop shop" (P10DM)

5.1 ALLIED HEALTH ROLES IN THE MANAGEMENT OF COMPLEX CONDITIONS

5.1.1 Holistic assessor

The community nurse at CHHC was a major focus of patients' discussions and the general focus was on the assessment role. Patients' descriptions indicated that the nurse acted as a holistic assessor and that this role was quite distinct from other AHPs. There was a strong perception of the community nurse as the one who had *"the broad picture of you"* and who made things happen, as one male patient aged 91 diagnosed with OA articulated

"I think [nurse] sort of covers more the whole ambit of health...she seems to have a knowledge but I can't understand how she has it." (P4OA)

In most cases, the community nurse alerted patients to a wide range of community assistance and arranged comprehensive packages of care, covering health and other social supports that facilitated community access. This personalised care was clearly valued by all patients.

"[The nurse] referred us to the dentist.... she just recently got the carer's allowance for us, for me, for looking after [wife]...She's also got the taxi allowance for [wife]...because we haven't got a car now so that's pretty important...She informs us of all the assistance that we can get in a wide range of areas, and if we've needed it, she's helped us to facilitate it." (P10DM)

5.1.2 Specialist 'hands on' role

While patients saw the role of the GP as being knowledgeable about the body and medication issues, AHPs were viewed as 'hands on' specialists in understanding the cause of presenting problems and the management of their complex conditions. This related mainly to the more therapeutic allied health providers such as physiotherapists, podiatrists and pharmacists. For example, as the second extract below indicates, the specialist knowledge of the pharmacist facilitated appropriate management in consultation with the patient's GP, as shown in the first extract. Some patients also perceived that some AHPs had more time than GPs to resolve problems.

I think they're specialists in their field, aren't they?...I mean the GP has got the general knowledge but each one of those is trained specifically in their field of work so I wouldn't worry about seeing them if I had to. (P8UI)

"And he (the pharmacist) just goes through mainly "Do you know what you're taking this for?" to see if we know. And then how often we take it...And he sort of brought it to a head, because lots of times you just take the tablets and know the doctor has ordered them, but it's good to know...and asked were you managing with remembering, because there comes a time when you might have to get a Webster pack" (P9DM)

5.1.3 Practical information and advocacy role

The AHP role also encompassed practical information and advocacy. This ranged from providing education and basic information *"about what you should eat and what you shouldn't eat"* to self-management assistance such as *"how to...prick the finger"*.

"He would explain different things and why it was important to always go and have your feet examined and, you know, remove all the dead skin, the calluses and everything; [when asked the what the purpose of seeing a podiatrist in terms of diabetes care, responded]: you can never be too careful, because of the numbness and the tingling that you do get in your feet. And something I've learned never to go barefoot..." (P9DM)

In a few cases, patients also highlighted the potential challenges regarding the information and advocacy role such as the comprehensibility of information and how this can be enhanced.

"I could not remember all she said because it was a long consultation...I had my daughter with me...And some little things that I'd forgotten, she picked me up on it." (P8DM)

5.2 PERCEIVED BENEFITS OF ALLIED HEALTH

5.2.1 Mixed utility

While mostly positive views were expressed, there were mixed views on the utility of the services provided. The benefits ranged from very tangible impacts such as *"it's good advice"* to more therapeutic such as becoming more *"confident"*. Allied health professionals were also described as *"very thorough"* and the general perception was that *"they've helped considerably"*. However, this did not necessarily equate to a common perception that it had any positive change. In some cases, patients spoke about tolerating the treatment to be polite, in another example; it was described as a matter of doing what was asked to *"improve myself"* rather than to gain any tangible benefits. Interestingly, many patients described the benefit in very subjective ways such as *"she was very pleasant and nice"*, *"she's always been very good to me...she doesn't rush off or anything"*, or *"well it's somebody looking after you"*. This was particularly relevant to the community nurse. There was also some indication that patients did not always share the same expectations as AHPs about the potential benefits. In some cases patients went *"along with it"* anyway as this 92 year old male diagnosed with UI indicated.

"I really couldn't tell you. I'm not too confident of it at this stage of the game, put it that way... [The physiotherapist] tends to agree but she wants to persevere, so I go along with it" (P6UI)

Given the mixed perceptions, of possible concern is patient adherence to therapeutic regimes recommended by AHPs. The commitment of time involved in following up multiple recommendations or referrals was also challenging for some patients.

I ... have to go to the audiology, I have to go to podiatry, I have to go to all these places, and they all take time. So I can't say I'll do them at 7.30 or something like that...So I've got to try and fit all that [exercise] in" (P4OA).

Familiarity and persistence with the treatment seemed to alter views on the benefits, as indicated by the first extract from an 81 year old female diagnosed with diabetes. On the other hand, medical advice was also a facilitator of patient willingness to see AHPs as suggested by the second extract from a 90 year old female diagnosed with UI.

"Well the first time ...I didn't sort of feel as though this - you know, this isn't doing me any good. But by the time the second - I went a week later...but the time I had that I felt, oh yes, I am getting some relief. And then each visit I was that much better." (P8DM)

"No I don't mind if the doctor thinks that's what I should do, then that's what I should do" (P5UI)

5.2.2 Community role

The community role of AHPs, which included home visits, was highly valued by patients. This was seen as enhancing the overall care experience. Benefits highlighted include: convenience, which has added significance for patients with mobility difficulties and familiarity of the setting reduces stress and enhances comfort. Home visits reduced the reliance on transport, saved time and overall, it enhanced the quality of the care experience. Several participants preferred to be seen at home, as opposed to attending the clinic, even though in some cases they could use entitlements under the DVA program. The benefit of home visits was also reinforced by a family member of an 81 year old female diagnosed with UI (second extract below).

"I like them to come here [home]. I like the physiotherapist to tell me the exercises and explain why...the doctor's time is pretty limited. I mean I go up there - I suppose I spend a quarter of an hour - 20 minutes. But she can

come here and sit here for half an hour...I feel that that extra time is worthwhile for me, and it makes me feel someone's interested. ...I feel more relaxed if people come here. I can talk more openly...So I think that's well worthwhile". (P4OA)

"From my point of view, it's also good because the nurse can see them in their natural environment. In their day to day...and then she can be alerted early on to anything that is not as it should be and which down the track could become a problem. The other thing too is when the interview happens in the home, mum and dad are really comfortable. They are very comfortable and relaxed so they can remember and they can tell and they can explain in detail and it's not rushed". (P1UI)

5.3 EXPERIENCES OF A MULTIDISCIPLINARY PRIMARY HEALTH CARE APPROACH

Participants spoke positively about the multidisciplinary care they received through CHHC. Most described a very structured approach to the management of their complex conditions, which included a coordinated referral process, in many cases at the point of diagnosis as indicated in the first extract below. This was made more straight-forward by the co-location of different disciplines within the one setting as the second extract implies, and described by one patient with OA as "more or less like pressing a button for them".

"Well when I was first diagnosed as a diabetic, I had to go down to the Community Health Centre...[I] saw the dietician, other people as well, went to a lecture and then they had exercises that I had to attend every Friday for six weeks and they showed me the exercises that I should be doing. That was great." (P4DM).

5.3.1 Personalised care

Patients spoke positively of care that was personally tailored to their needs, including the allocation of time to discuss and organise a range of health professional and community services, targeted information which enhanced understanding of their conditions, and referrals to specific allied health services. For one woman of 90, the personalised care by female nurses also helped to deal with the sensitive issues of UI (second extract below).

It was helpful...it was personal...you know better now, you know, what to do about it...a bit more information and understanding (patient) (P3OA)

[When asked what thought about general assessment]: "Well I thought it was very good 'cause some things - I don't know - the doctor wouldn't have been talking to me about pads and what sizes and so forth now would he?...He'd say, 'see the nurse about that'...Mostly [the nurses are] women too so they'd know what might fit". (P5UI)

It was also clear that the co-location of health care providers (as in the CHHC model) enhanced the perception of care being more personalised for some patients, specifically in terms of care planning. However, for others, there was some uncertainty despite the co-location about the extent of communication and linkage that occurred between their various health care providers.

"I feel very confident in how they work together and I know with [nurse] and [GP] ...there is a lot of feedback going on about all their patients and I know that has been the case in my own particular circumstances." (P10DM)

"I don't know if they work together or not." (P7DM)

5.3.2 Proactive and practical

Patients described the multidisciplinary care as proactive and practical in that there was a systematic way of assessing and monitoring needs and responding in a timely way.

“Well I think it's a good idea because as you're getting older, they can keep a check on how you're really handling things. I mean she was able to say I wouldn't get any home help at this stage because I'm still able to look after my house. And she said she can get this and she explained quite a few things to me” (P3UI)

Overwhelmingly, the most valued aspect of the multidisciplinary care approach was the assessment and coordination of care by the community nurse within CHHC. This reinforced the proactive and practical aspects of care since it included assistance with a range of community and social supports which was of real value in terms of overall well-being.

[When asked what help nurse has provided with incontinence]: “She organised the funding - the government funding for buying the incontinence pants...she organised the disabled parking for me...and she also organised for me to get taxi subsidy voucher so that I can take a cab for doctor's appointment or whatever...also organised funding for dental work for me...subsidies that I wouldn't have been aware of”. (P7UI)

The overall positive experiences of patients of the CHHC multidisciplinary approach were articulated clearly by one 80 year old male with a diagnosis of diabetes.

“Well they've built a new building and they've now got podiatrists there, they've got dermatologists there, they've got a men's health care, they've got all sorts of new people working within the system beside GPs. They've got a pharmacist...this has only happened in the last few years that they've got this broad...a great, great service” (P10DM).

5.4 BARRIERS AND FACILITATORS

5.4.1 Cost of health care

There was a major preoccupation with the cost of health care in discussions about care experiences generally. Cost was identified as a significant factor when making health care decisions and accessing care. Patients' views were that they simply had “to manage” but the potential detrimental effects on access and wellbeing were also articulated, for example, limiting and restricting access to medical services and medication, and causing stress and anxiety.

“We just more or less have to manage - I know there's plenty of people that are finding it very hard to manage...to try to keep your health in good order, it's a very hard thing to try and do if you've got to pay. And the fact is they tell you now to go to the hospitals...but you go and sit in the queues” P10A)

However, patients' comments also indicated that they were extremely resourceful in managing these impacts, though strategies adopted were never quite adequate to manage the full extent of barriers to optimal care. These included delaying or spacing out appointments, prioritising health care needs, making special requests for fee reductions, cutting-back on spending in other areas of their lives, limiting activities, and changing practitioners.

“I have tried when we went to our old podiatrist, which we went to for about 15 years, and I have tried to stretch it out a little bit, instead of 6 weeks, but I honestly can't... it's a great help having those five visits ..a couple more would be a help”. (P9DM).

Private health insurance rebates, but more so, rebates provided under the CDM program were clearly important policy measures that went some way toward assisting patients to manage health care costs. Linked to this, there were also various other programs (e.g. DVA) and subsidies, particularly transport subsidies and assistance with equipment or special aids such as incontinence pads, which were critical in facilitating access, but also impacted on well-being. Despite these initiatives, restrictions on eligibility and the inadequacy of some of these measures to meet patient need were problematic. In one case of a patient diagnosed with UI (second extract below), this meant a shortfall in assistance for continence pads. Even in cases of private health insurance, as indicated by the last extract below from an 88 year old female, out-of-pocket costs were an ongoing concern.

“That [cost] is a big thing because... [reference to wife going to physiotherapist] I think it was 100 and something [dollars] the first visit and then it was about 70 or 80 a visit. That on a pension is bad, with everything else we've got to pay. So this is costing us nothing. It's just bloody fantastic to get something for nix” (P9OA)

[When asked if pads subsidies is enough to cover the cost]: “I don't think it is. I've only been on it for one year but you see, mine is such that, my usage is such that some days I can use four pads in a day” (P2UI)

“But then I discovered it annoyed me that I was only getting this pittance back and only for a limited time in a year. And the same with the physiotherapy you could only do so much in a year and then you had to pay for it yourself. But of course that's the fault of the insurance, not the fault of the doctor or the professional, the health professional”. (P7OA).

Chapter 6 Health professional views on the role of allied health

6.1 PERCEPTIONS OF THE ROLE OF ALLIED HEALTH IN COMPREHENSIVE PRIMARY HEALTH CARE

The role of AHP in the management of complex conditions had three overarching features: (1) diverse specialised skills, knowledge and approaches to care; (2) holistic care; and (3) flexibility and less time constraints. Table 6.1 provides full details of the key themes and descriptors of the role of AHPs in the management of complex conditions and the perceived impact on patients and GPs from the health professional perspective. These are supported by illustrative extracts from the focus group participants. The extracts have unique identifiers which indicate the particular discipline and individual participant (e.g. GP1) and in the case of AHPs, whether they are internal or external to CHHC (e.g. IntAHP1F represents one AHP, female, who is internal to CHHC).

6.1.1 Specialised skills

Specialised skills and knowledge in assessment, health education and treatment provided another practice dimension in the management of chronic disease, which was complementary to medical approaches but extended the scope of care. *"[Allied health] largely have specific skill sets that we either don't have or don't have the time to recommend ... [they] give your patient a much broader treatment than what you're capable of doing in your consultation"* (GP9M). Although multidisciplinary processes provided GPs with a better understanding of different AHP disciplines and roles, from the allied health viewpoint, they often received inappropriate referrals and emphasised further education was required.

6.1.2 Holistic care

Secondly, the AHP role extends beyond a patient's immediate medical concerns and can focus on preventive aspects of care, often in community settings, such as risk assessment and patient safety, patient independence, and quality of life. *"Just finding gaps, where there are services that could have been skipped or they're [the patient's] not aware of, or they haven't been provided with"* (ExAHP1F). This was also echoed by GPs: *"Sometimes you're just busy and you're focusing on the very medical stuff and then stuff that actually makes their [the patients'] lives easier and happier or safer, we may not actually think of that"* (GP10F).

6.1.3 Flexibility and less time constraints

The AHP role was also seen to be more flexible. The general perception from all groups was that AHPs can spend more time with patients than GPs, and have more flexibility in their care approach, which makes them more accessible to patients, and enhances their ability to gain a comprehensive understanding of the patient situation. *"They don't have the same time constraints and they just have a more concentrated level of skill in a particular area"* (GP3F). From the perspective of AHPs, *"Sometimes it's enough [time] for patients to express their concerns... they don't feel comfortable to say things to the GPs. They don't feel it's appropriate use of the GP's time"* (ExAHP8F). Flexibility also extended to home visits.

It was the general view of participants that these features of the AHP role support the delivery of more coordinated chronic disease PHC; provide more effective, accessible and comprehensive patient care; and facilitate potential cost savings to the system, thus, greatly

enhancing the prevention and management of chronic disease. One GP summed it up by saying:

“They value-add. It’s one plus one equals three. It really does improve what you can do and I think that’s the best thing about allied health professionals, it improves the patient journey and the patients get a better outcome” (GP5M).

Table 6.1 Role of Allied Health Professionals in the management of complex medical conditions

AHP Role

Diversity	A diversity of tasks and practice approaches were identified as part of the AHP role in management of chronic disease including: needs assessments, coordination, prevention, treatment, self-management education, practical assistance, emotional support and counselling, functional support, and advocacy.
Problem solver	AHP were recognised for their comprehensive knowledge of referral pathways and well-established networks, and considered particularly well-placed to work with patients with complex needs, commonly referred by GPs. “It [the referral] is often for the hard patients, the difficult ones, that they [GPs] either have to spend a lot of time with or their treatment is difficult to implement” (IntAHP1M).
Enactor	The AHP role was also recognised for its practical role in enacting individually tailored care. “A GP can assist with education I believe, but then practically putting things into place,...[name] said she goes out educates and talks about incontinence, and then can assist, whereas a GP doesn’t specialise in that. So that’s where advocates help improves their lifestyle” (ExAHP2F).
Risk mitigator	Home visits are an added benefit of the AHP role, as they facilitate a better understanding of the patient situation, identify and address risks, and enhance prevention and comprehensive care. “I know with home visiting, I see a lot of compromised safety issues...we’ll go in and see something [and] we’re absolutely amazed this has gone on for the last 30, 40, 50 years. But no-one’s actually been into the home to see that this was what’s happening” (ExAHP7F); “If I met them in a clinic, I would think maybe their main goal might be something else. But when you see them at home, you can then understand exactly what their true functional goal perhaps is” (ExAHP3F); “They’re seen in their home and all kinds of things come to light. The nurse will come back and go, they haven’t got this, this is a risk” (GP10F).
Cost saver	At a broader level, AHP preventive work was identified as contributing to potential cost savings to the system. “One is the cost because if you cut out our [role] ... they go to the next level up. They might need a hospital admission. They might need a joint replacement. They might need some serious different medications that are going to cost them a fortune. So we’re sort of risk managers in a way and we mitigate the risk to a large extent” (ExAHP5F).

Patient Impact

Targeted services	Multidisciplinary care was described as providing a range of benefits for patients, thus supporting more comprehensive and tailored care. “Well I think the elderly people that I see, the ones with complex care needs, are receiving more and better targeted services than I would have been able to identify a need for or to arrange if it was just me doing it all by myself” (GP8M).
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Quality time	AHP participants suggested they have more time than GPs with patients, which can facilitate patient trust, thereby enabling a more comprehensive assessment of care needs. “We’re probably the best people for them to talk to. We can spend a lot of time with them initially and that means that they’ll trust us. They’ll open up to us. They’ll be able to talk about it which is the main thing really so we can do an assessment” (ExAHP4M).
Consistency	These benefits are further enhanced within the CHHC model. “They actually see the same faces, whereas in hospitals settings it would be a different face every time... and that builds confidence in them and they are able to share”(IntAHP4F).
Suboptimal care	When discussing the Medicare TCA model, however, participants consistently identified that the limited number of appointments creates a barrier to the patient receiving sufficient information, education, and treatment to effectively manage their health concern. “And I find that probably our biggest worry are those patients that are the high risk diabetic. Because you know the two visits a year...and you’re heading them into the hospital system” (ExAHP1F).

GP Benefit

Professionalised knowledge and skills	AHPs were identified as providing significant benefits to GPs within the multidisciplinary care environment. This was discussed in the GP and internal AHP groups, but was not raised in the external AHP group. This could be peculiar to the CHHC model, thus making these factors more visible, and additionally, it may be considered part of the AHP role in this setting. In particular, participants described that AHPs provide practice knowledge and skills that ‘fill gaps’ in GP practice, facilitating a more comprehensive treatment approach, and greater access to practice resources. “Just have a lot more professionalised knowledge than you do. They can find out a lot more; they can tell the patient a lot more things about the finer points of diet and finer points of how to get various things” (GP1M).
Time saver	Further, while AHPs acknowledged the time pressures within their practice, all participants agreed that AHPs are less constrained in this area than GPs which gives them greater flexibility in their practice and longer sessions with patients. “We have so much extra time than the GPs do, so we can really give priority to their [the patients’] concerns” (ExAHPM4); “Possibly they [GPs] can see that we can spend a bit more time with them [patients] on specific – whether it’s education or therapy and so forth that they won’t have” (ExAHP6); “When I diagnose a new diabetic it takes a long time to educate them. Whereas now it’s simple. I just say, ‘You’ve got to see a diabetes educator.’ Saves me an hour”. (GP5M). A key factor driving this difference is the GP payment structure, which is based on 15 minute intervals.
Sharing the load	Consequently, GPs direct more time-consuming tasks to AHPs, such as complex patient management and administrative duties, which can lessen the workload burden for GPs. “They do so much of the paperwork for us” (GP3F); “[It] takes a lot of stress off me having a diabetes educator... I think it really improves our professionalism and you go home and you’re not nearly as exhausted really because someone’s sharing the load” (GP5M); “It’s less stressful for us so it’s more satisfying ‘cause we have a sense that we’re doing a better job even if we’re not actually doing quite a bit of it. We’ve got all these support people but yeah you enjoy your job more, you can keep to time better, you feel more satisfied” (GP10F). Internal AHPs generally spoke favourably about this arrangement, and it appeared that

they had integrated GP support into their role. “That takes away the burden, the time burden on the GPs” (IntAHP4F).

Shifting care The possibility that ‘shared care’ can become a matter of ‘shifting care’ was raised by some of the external AHPs. They recognised that this can place a substantial load on some AHPs, risks them becoming overburdened, and may compromise patient care. “They [GPs] basically hand the patient over to look after foot care and let us know if there’s a problem... I don’t think they even take shoes off anymore...And then almost absolve themselves of any responsibility for that once they hand someone over to us which can be difficult if you have got two visits” (ExAHP1F).

6.2 VIEWS ON CURRENT MULTIDISCIPLINARY CARE ARRANGEMENTS AND PROCESSES

Appendix 7 provides the key findings in relation to health professional views on current arrangements and processes for multidisciplinary care. The findings include views on Medicare Team Care Arrangements (TCA) under the CDM program as well as the CHHC model.

6.2.1 Effective care

Participants agreed that chronic disease management involving multiple disciplines provides more effective, targeted, and comprehensive care for patients.

“Patient’s a lot more informed. They’ve got more information; they’ve got access to information. They know where to get it and they have more facilities and more equipment, all sorts of things...their information are more rounded with an allied health rather than just a doctor” (GP9M).

The understanding of multidisciplinary care, however, was varied, and shows how policy is interpreted differently in local contexts. When discussing Medicare TCA and multidisciplinary care generally, participants made comparisons with other policy programs including Department of Veteran Affairs (DVA), Home and Community Care (HACC) and Work Cover, and described practice approaches that did not necessarily include coordinated care arrangements, or GP involvement in care.

6.2.2 Medicare Chronic Disease program perceptions

Perceptions of the current CDM program were mixed. Generally, participants indicated that it improves patient access to AHPs, enabling more appropriate care of chronic conditions.

“One of the biggest things that we’ve seen since [the CDM] program has come in, has been access to people that haven’t had private health cover. So haven’t seen a podiatrist before” (ExAHP1F).

The level of funding to support this access, however, was viewed as inadequate, as it constrains the provider’s ability to appropriately manage the condition, causes financial stress for patients through out-of-pocket costs, and hinders the involvement of multiple disciplines in care.

“It’s lovely that they have got five, but for chronic, complex patients it’s reasonably inadequate. That would do podiatry for my patients, five visits in a year just gives them their three monthly podiatrist and that’s it... Your first consultation is initially an assessment and then all the treatment comes out of that” (IntAHP4F).

Additionally, the required communication processes were generally viewed as onerous, and at times unnecessary, and providers, particularly GPs, described a preference for former, familiar practices. Consequently, participants indicated that team care planning, input, and feedback was not occurring to the extent implied in the policy, and therefore, in practice, they operate more in 'parallel' than as a coordinated team.

Importantly, community nurses were identified as pivotal for coordinating and managing multidisciplinary care arrangements, due to their nursing perspective, their focus on patient care and their comprehensive knowledge of referral pathways.

"The community nurse in this setting is just so important. And if that could be done in all GP clinics, or there could be a community nurse coordinating all case management, then I think everyone finding it much easier. If there was a go to person in each clinic that wasn't a GP, because the GP doesn't have the time...I think that's the integral part" (ExAHP7F).

Overall, current funding and service delivery arrangements were perceived as encouraging some level of care involving multiple disciplines, and affording particular benefits to patients, yet the rigidity and inadequacy of these arrangements may be counterproductive to policy goals.

"This is driven from top down, therefore there's policy and specificity and we're all saying it works best when there's inherent flexibility... And if you're going to have these various specifically coordinated care [arrangements], if it doesn't allow for a bit of geographical flexibility, personality flexibility, it's not going to be effective" (ExAHP8F).

6.2.3 Effectiveness of the CHHC model

From all perspectives, CHHC was also perceived to be a more efficient and workable team care model, providing multiple benefits for patients, facilitating greater access between AHPs and GPs, and supporting more efficient and coordinated health care practice. However, not all AHPs saw this model as suitable to them professionally. It was clear, however, from the perspective of GPs and internal AHPs that the CHHC model represented a shift in professional culture. This may be unique to the personalities within this centre but it raises interesting issues about the drivers and benefits of integrated models of care.

Chapter 7 Discussion/policy implications

This project provides an in-depth examination of the care of older patients with chronic and complex health needs. It has examined in depth the model that has developed over several years where patients identified with complex care needs are evaluated by a community nurse in the home. Needs across the physical and psychosocial spectrum are identified and appropriate care plans are developed and enacted.

The questions posed were:

- > How do patients and health care professionals view the role and benefits of allied health in the management of complex conditions?
- > How does the role of allied health operate and interact within the comprehensive primary care setting to influence the management and outcomes of patients with complex conditions?
- > What is the optimal funding and organisational model to support the role of allied health in the management of complex conditions within comprehensive primary care settings?

This project concentrated on the patient and health professional experiences of Chronic Disease management, and did not include an economic analysis.

7.1 KEY LESSONS LEARNED

7.1.1 Key features of the CHHC practice model

Several features of the CHHC model appear critical for its success.

- > There is clinical and administrative leadership committed to the development of a multidisciplinary, collaborative model.
- > There are clear principles that drive the model. (see 6.3.1)
- > Decision-making is consultative in nature, but there is a leader who makes the final say.
- > Very strong, flexible administrative structures are in place, which can enact a decision quickly.
- > Co-location of different professionals leads to greater understanding of each other's roles and strong communication.

7.1.2 Key features of a successful model of multidisciplinary care of older people

With respect to the multidisciplinary care of older people with complex health problems, the key features of the model are:

- > Targeting the intervention to people with complex needs, and not to all people. A blanket approach is known not to work.(23)
- > Development of a comprehensive health assessment checklist, which ensures that all major potential causes of complications are considered. This includes the use of some validated instruments. The information from this clinical tool provided data for the CHHC 75+ database.
- > Employing highly competent, committed clinical nurses, in this case community nurses, to conduct the assessments.

- > Employing the same nurses in a case management role. This ensured that the nurse was the point of care for emerging needs, and ensuring existing needs were met.

7.1.3 Key requirements to engage AHPs in a primary care setting

With respect to promoting the role of AHPs as part of the multidisciplinary team in the CHHC model, two groups emerge. There are separate requirements for each group.

- > AHPs who work within a centre as part of a multidisciplinary team.
 - o Encourage AHPs who willing to work within the CHHC model. This incorporates developing a business model which specifies the role the AHP will take within the practice and the means by which that position will be funded.
 - o Encourage collaboration and interaction between the professionals housed within CHHC through informal and formal means
 - o Having the mechanism described above in place to identify needs and connect the patient to the right health practitioner.
- > 2) AHPs who work external to the centre but as participants in a multidisciplinary team.
 - o Recognise that participation in this model is not for all AHPs
 - o Recognise and utilize AHPs who choose to work outside of the practice model when appropriate, and utilise them when appropriate.
 - o Provide a single point of reference within the practice to facilitate the process of multidisciplinary team care. In the CHHC's case this is the community nurse.

7.2 PATIENT CHARACTERISTICS

This group of patients suffers multiple health problems. Chief among them were mobility and pain problems. Although mobility was noted as a problem, and many used walking aids, a relatively small number of people felt their mobility was a concern for them. A surprisingly large number of them had experienced at least one fall. Many had deficits in vision and hearing. Few exercised regularly. Falls prevention appears to be an important area where gains can be made.

7.3 PATIENT PERSPECTIVES ON AHP CARE

Patients appreciate the availability of multiple services under the one roof at CHHC. However, many people in the cohort do not appear to appreciate what the AHPs do and what benefits can accrue from their proper use. The role of the AHP needs to be made clear from the outset. The role of AHPs as facilitators of self-care needs more emphasis. AHPs can provide advice or exercise regimes, for example, but the person themselves needs to follow the advice. The improvements gained take time and perseverance, and this does not appear to be appreciated by some. Adequate explanation of the role, what to expect from AHPs and encouragement to adhere to recommendations are areas where gains can be made.

The costs of AHP services and health services in general are a major barrier. Patients display considerable ingenuity in determining how they can get around the cost barrier. This means that the effectiveness of AHP interventions may be diluted by reducing the frequency of the intervention below what is recommended, or by the patient choosing whether to attend or not attend.

The role of the community nurse as assessor and as the connection point for patients cannot be overstated. Patients consistently referred to this. Her role is visible and brings tangible benefits to the patient.

Patients rely on health professionals for advice on what AHP services are required, and who provides the services they need. It is apparent that patterns of referral exist, so that patients may not be aware that the options of who can provide a service are limited by this. Offering patients alternatives is a reasonable option.

Therefore, from a patient perspective, the role of the nurse brings clear and often immediate tangible benefits. The benefits of AHP involvement in their care, on the other hand, is not as well appreciated, probably because of costs, and a failure to appreciate the necessity of patients to follow their advice and persevere with the advice offered.

Appendix 8 provides the key findings in relation to patient perspectives on current arrangements and processes for multidisciplinary care.

7.4 SERVICE PROVIDER PERSPECTIVES

Both AHPs working within and outside of CHHC appreciate the model that has developed. They appreciate the interprofessional collaboration that arises from it, and the thoroughness with which patients have their needs assessed and met. Those that worked within CHHC found the environment personally and professionally satisfying. They recognize that working within the CHHC model will not suit everyone, mainly because some will see being tied to one way of doing things and one set of referring GPs, prevents them their services more widely.

There was much comment on the inadequacy of the Medicare AHP initiatives. All health professionals recognized that Medicare provided the means by which some people could access AHP services for the first time. However, they observed that the limit of five Medicare funded AHP visits was grossly inadequate for all of the needs of many patients. These people, if they did not have “extras” insurance or another funding source, such as DVA, had to make difficult choices about how to gain AHP services. They were also critical of the mismatch between the way GPs and AHPs were remunerated for participating in team care arrangements. The required communication processes were considered onerous and in many cases unnecessary, and for which there was no remuneration for AHPs. There was a considerable gap between the communication processes implied in policy and what was happening on the ground.

7.5 LIMITATIONS OF THE STUDY

The Quantitative aspects of this study rely on retrospective data from the geriatric assessment data and the medical records. The limitations of retrospective studies using chart review are: incomplete documentation, information that is difficult to interpret, and variation in the quality of information recorded by different health professionals. In this study, these limitations are partly overcome by the geriatric assessment being conducted by the same community nurse in a standardised and comprehensive format. The data from the geriatric assessment was augmented by the medical records to ensure completeness of data where possible. Data in the form of free text were cleaned and coded, and data collected from medical records systematically on a prepared form by one data collector.

An additional limitation is the generalisability of the data to all older people as the data were obtained from selected patients from a single practice. Data on the index conditions were obtained from a small sample purposively selected by gender, age and health funding sources.

With reference to the qualitative methods, the findings of the qualitative study aimed to interview thirty patients about their views on allied health and multidisciplinary care are drawn from interviews with thirty, predominantly older patients. These patients' perspectives might not be representative of the broader patient group. Nonetheless, the study has derived important insights about how patients view allied health and multidisciplinary care. Importantly the study indicates those attributes of care valued by patients and which is informative for Camp Hill Healthcare. However, it would also be important to ascertain how other patients view these attributes. The study has focused primarily on understanding the experiences of these patients with chronic disease rather than how their experiences might differ according to disease type. This is an area for future investigation. Likewise, the focus groups offered an interesting insight into how different primary care disciplines practicing in different organisational contexts view the role of allied health in the management of chronic disease. Given the participants were drawn from one primary care practice only and from AHPs who received referrals from that practice, the findings need to be treated with some caution.

Finally, the owner, executive officer and staff members have been CIs or AIs on the project. They have been instrumental in facilitating data gathering. However they took no part in the analysis of the data, and had no right of veto over the findings in the final report.

7.6 POLICY IMPLICATIONS AND RECOMMENDATIONS

- > This report describes an effective means of organising and running general practice that facilitates the care of older patients with complex health problems. The model overcomes the hub-and spoke model currently encouraged by the Chronic Disease Management program. It is transferrable to smaller practices because it relies on a set of principles, not practice size. We recommend that this report is distributed to all Medicare Locals with a view to assisting practices to work towards this model of care.
- > We recommend that a case management approach to the care of older persons with complex care needs be deliberately facilitated. Consideration should be made to how this can be a funded role within the general practice environment. The support of patients by a skilled case manager meets the broad range of ongoing needs of people within complex care, and provides a conduit to appropriate AHP support. Case managers provide expert ongoing care to this population. Case managers should be tertiary trained health professionals. The skill mix of case coordinators may require the development of specific training, including conducting comprehensive geriatric assessment, condition-specific assessment, knowledge of funding sources and health service eligibility criteria. There is evidence from randomised controlled trials that case managers embedded in primary care and restorative rehabilitation is cost-effective in keeping frail aged people at home longer and increases survival than where case management is not used. (24, 25) Health coaching is a role of case managers which should be supported with training. Further, the Department of Veterans Affairs Coordinated Veterans' Care (CVC) Program is funding a nurse case management role for frail veterans to the tune of \$400 per veteran per quarter paid to the GP and nursing service providers. Their justification is that the payment will be covered if the veteran avoids a single hospital admission of two day's duration.(26)
- > We recommend that software systems that facilitate comprehensive assessment of the health needs of older patients with complex needs should be developed. The strength of the CHHC Model is that comprehensive, systematic examination of the patient's health needs has been facilitated by the 75+ health assessment software that has been generated, and which generates a database that allows for audit and

subsequent quality improvement activities. The specifications for such a system include:

- o Compatibility with existing primary care software to allow auto-population of relevant parts of the existing medical record
 - o Automatic generation of a health assessment for ratification by the GP
 - o Automatic recording of the health assessment in the patient's medical record
 - o Automatic generation of a patient database to allow quality assurance activities to be supported.
 - o Descriptions of common health care items for evaluation coded automatically for consistency in the database.
 - o Use of validated assessment tools for common items like depression, anxiety, cognition, falls risk, ADL and IADL activity restrictions, pain, sensory function, continence, health promotion, weight, nutrition, medication management.
 - o Functional in a general practice setting and portable for use at patients homes(brief, easy to use)
- > Meeting the health needs of people with Complex aged care problems through primary care initiatives requires skilful practice management that facilitates the delivery of that care. The features of that management are the development of appropriate practice protocols and systems that clearly define how the practice will operate, and flexible enough to adapt when new service opportunities arise. Consideration should be given to facilitating the training of practice managers and practice principals in practice management and administration.
- > We recommend changes to the Medicare Funding of chronic disease management:
- o More precise targeting of the available funding to patients with chronic and complex health care needs, especially multiple co-morbidities.
 - o Increasing the number of Medicare funded services from five to ten for people within the target population. In this case this is people over 75 yrs with chronic care needs.
 - o Developing funding for home visits by allied health professionals for frail older people and those with limited mobility
 - o To shift from flat rate reimbursement for allied health services to a payment structure that acknowledges the different tasks and time required for complex conditions (namely, short and long consultations)
 - o A broader range of health practitioners eligible for funding under the scheme – especially pharmacists⁶
- > We recommend a review of the policy covering what private health funds can cover in community based services, to ensure that case management of people with complex care needs by practice- based staff can be supported.
- > Research should be conducted in the following areas related to the role of allied health in primary care.

⁶ Roles that pharmacists can perform that are not covered under medicines reviews include providing health advice independent of a prescription being filled; prescribing audits of GPs), continence nurses

- o The development of a standardized reporting system between GPs and AHPs that is efficient and provides: 1) a minimum, condition-specific dataset on patient needs; and 2) standardised care management and follow up processes.
- o The nexus between the 75+ health report and the coming Personalised e-Health Record
- o The economic impact of general practice-based, multidisciplinary care of older people with complex health needs (Economic benefits are likely from multidisciplinary teams and case management. This would provide cost benefits to the system as a whole through delaying or preventing conditions or events that lead to expensive hospital admissions. (eg joint replacement, falls prevention, moves to RACF))
- o Investigation into means by which multidisciplinary care and case management, and the management systems required for its sustainability, can be systematically implemented into existing general practices.
- > Education of the health workforce about the needs of older people with chronic care needs is a high priority.
 - o We recommend that systematic education of all health professionals on the care of older people with complex health needs take place as a routine part of undergraduate courses. This includes teaching on the breadth of the capabilities of AHPs. We recommend that a process similar to the Commonwealth- funded Palliative Care Education for Undergraduates (PCC4U) course be implemented.
 - o A generic undergraduate program for palliative care has been developed, and could be considered as a template for developing similar educational opportunities in Australia.(Palliative care for undergraduates: <http://www.caresearch.com.au/Caresearch/PCC4UHome/tabid/547/Default.aspx>) The development and funding of this program has been funded by the Commonwealth and provides the opportunity for every Australian health care undergraduate to be exposed to the principles of palliative care.
 - o We recommend that formal education for complex care management be a part of vocational training for general practitioners and relevant specialist medical training
 - o We recommend that Medicare Locals be responsible for ongoing training and skill development of the primary health care workforce in the area of older people with complex health care needs.
- > Older people do not understand the roles that allied health professional have. This is compounded by GPs not recognizing the potential roles various AHPs can fulfill, and not articulating more clearly what the objectives of a referral to an AHP. **We recommend that a public health promotion campaign promoting understanding of the role of AHP in health maintenance and non-drug treatment of chronic conditions, targeting older people be implemented.**

As incidental findings, we identified major health care needs in the areas of falls prevention, pain management and urinary incontinence that require intensive multidisciplinary approaches. We have elaborated on these problems and recommendations in *Appendix 9*.

Chapter 8 References

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Appendices

Appendix 1	Definitions of Primary Health Care and Allied Health
Appendix 2	Interview Schedules for Patients with index conditions, AHPs, GPs and Senior Practice Management
Appendix 3	Membership of the Project Advisory Committee and Research Team
Appendix 4	Findings from the First Geriatric Assessment of all Older People
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Appendix 9	Policy recommendations in the areas of falls prevention, pain management and urinary incontinence that require intensive multidisciplinary approaches

APPENDIX 1 DEFINITIONS OF PRIMARY HEALTH CARE AND ALLIED HEALTH

1. Primary health care

In Australia, primary health care is defined as being 'socially appropriate, universally accessible, scientifically sound first level care provided by health services and systems with a suitably trained workforce comprised of multi-disciplinary teams supported by integrated referral systems in a way that: gives priority to those most in need and addresses health inequalities; maximises community and individual self-reliance, participation and control; and involves collaboration and partnership with other sectors to promote public health. Comprehensive primary health care includes health promotion, illness prevention, treatment and care of the sick, community development, and advocacy and rehabilitation.'(27)

2. Allied health professionals

Allied health professionals provide a broad range of diagnostic and therapeutic services in within the health sector and primary care. Defining allied health is challenging due to the diversity of roles. A proposed definition in Australia is that allied health professionals(28):

- > are tertiary qualified, having completed an accredited entry level qualification permitting them to obtain either state or territory registration, a license or accreditation to practice, and/or to join the relevant professional body
- > apply their skills and knowledge to restore and maintain optimal physical, sensory, psychological, cognitive and social function
- > use clinical reasoning skills in working directly with patients to restore and optimise function on an individual basis
- > are 'allied' or aligned to each other and other members of the health professional workforce, working together as part of a multidisciplinary team
- > are 'allied' or aligned with health consumers, the consumer's family and other carers, and with the community.

3. Selected AHP definitions

The variety of professionals defined under the broad definition of Allied Health provides a broad range of roles within primary care. Illustrating some of these roles:

Dietitians roles include providing advice on diet and nutrition, promoting illness prevention strategies including behavioural change, and applying rehabilitation / support strategies to improve nutrition-related illnesses.(29)

Physiotherapists (physical therapists) are dedicated to improving and maintaining functional independence and physical performance, preventing and managing pain, physical impairments, disabilities and limits to participation for patients. They analysed the impact of injury, disease or disorders on movement and function, and promote, restore and prolong physical independence by enhancing the patient's functional capacity. Interventions may include instruction/education, manual therapy techniques, physical conditioning, therapeutic exercise, electrotherapeutic modalities, and application of assistive devices among others.(30)

Podiatrists are critical for the assessment, diagnosis and treatment of common and more complex lower limb pathologies associated with the toenails, soft tissues and the musculoskeletal system with the purpose of sustaining or improving foot health.(31) Further they provide and collaborate with other health professionals in providing therapeutic footwear and foot orthoses provision and preventing mobility difficulties through early

intervention, patient education on self-care, falls prevention and prevention of diabetic foot ulcers among other therapies.(32)

APPENDIX 2 INTERVIEW SCHEDULES FOR PATIENTS WITH INDEX CONDITIONS, AHPs, GPS AND SENIOR PRACTICE MANAGEMENT

A. Patient Interview Schedule (case studies)

AHP = Allied Health Professional, SN = Skilled Nurse

Name(s) of AHP/SN:	Profession(s) of AHP/SN:
Funding pathway: ☐ Medicare (TCA) ☐ DVA-Gold ☐ Private Health Insurance ☐ Self payment	Details of Private Insurance (patient should have a card the size of a credit card) Provider: Extras level of cover:

- 1) Can you tell me about the services you receive through CHH for your [index condition]?
- 2) Who are all the people involved in the management of your [index condition]?
- 3) Who do you routinely see at CHH and who do you routinely see outside CHH for your [index condition]?
- 4) Who or what service do you currently consider is the key one for managing your [index condition]? Can you tell me why?
- 5) How did it come about that you went to see [AHP/SN name]?
 Prompt: was it your decision; the doctor's decision; the nurse's decision?
- 6) What do you understand was the main reason for seeing [AHP/SN name]?
- 7) Can you tell me a bit about the nature of your contact with [AHP/SN name]?
 Prompt: for example, when did you first see them; do you routinely see them; do you see them for a set number of visits; or is it one-off visit?
- 8) Do you think that the level of contact that you have with [AHP/SN name] is generally adequate to meet your needs?
 PROMPT: why/why not.
- 9) What other options are available to you if you wanted more AHP services?
- 10) How does [name of AHP/SN] help you with your [index condition]?
 PROMPT: do they refer you to other services? suggest other options for more services?
- 11) Has your management of your [index condition] changed as a result of seeing [AHP/SN name]?
 Prompt: If yes, in what way has it changed? If not, why do you think it hasn't changed?

It is also important that we understand about what makes it difficult for you to access the care you need. Therefore, I want to now talk about what might impact on getting the care you need

- 12) Have any particular issues arisen at any time to prevent you from getting to see [AHP/SN name(s)]?

PROMPT: illness, cost, location, time, caring responsibilities, and transport

- 13) How do you normally pay for the services you receive through CHH?

PROMPT: whether mainly out-of-pocket payment, bulk-billing, private insurance, full payment etc

- 14) How do you normally pay for AHP services you receive?

- 15) Do you have any particular concerns about using allied health services?

If yes, what are these and how might they be addressed?

I want to now finish by asking you more generally about your experiences of GPs and allied health working together to help you manage your [index condition]

- 16) What do you understand is CHH's plan for managing your [index condition] on an ongoing basis?

PROMPT: What have you been told about the overall plan? Did anyone discuss the visits you had with the [AHP/SN]?

- 17) What access do you have to a formal plan from CHH for managing your [index condition]?

If yes, how do you make use of this plan yourself?

- 18) How do you see the relationship working between your GP and the [AHP/SN name] around the management of your [index condition]?

PROMPT: does your GP ask you about your visits with AHP?

- 19) Do you have any particular concerns about how your [index condition] is managed generally through CHH? E.g. consultation time, number of consultations, expectations, cost etc

If yes, what are these and how might they be addressed?

- 20) What two things do you like best about your current care arrangements through CHH? (this includes the GP, nurse and allied health professionals)

- 21) What two things do you not like so much about your current care arrangements through CHH?

PROMPT: what would improve this for you?

Before we finish, is there anything else you would like to add about the care you received for your [index condition]?

B. AHP Focus Group (Internal CHHC group)

Perceptions of the role of AHP

First, we are interested in knowing how you generally view the role of AHPs and your experiences in the management of patients with chronic disease, in the primary health care setting.

- > How would you describe the nature of your role in the management of patients with chronic disease (our index conditions) in the primary health care setting?
- > How do GPs use you (your expertise etc) in the management of patients with chronic disease?
 - o To what extent (and how) have you tried to influence GP perceptions?
- > What about the role of AHPs in the management of patients with chronic disease do you think is particularly beneficial to the overall management of patients with chronic disease?
- > How do you see the role of AHPs influencing the outcomes of patients with chronic disease managed in the primary health care setting? (improving access, self-management etc)
- > What have your experiences been like working with GPs and other AHPs within primary health care settings in the management of patients with chronic disease?

Participation in multidisciplinary team care (inc TCAs)

There are variances concerning involvement of AHPs in the management of patients with chronic disease within primary health care settings (including under TCAs)

- > How would you describe your level/extent of involvement with GPs right now in the management of patients with chronic disease within the primary health care setting? (including TCAs)
 - o How is your involvement with GPs generally structured and financed?
- > What are your perceptions/experiences with Medicare TCA arrangements
 - o How adequate do you think these are for patients with chronic disease?
- > What particular concerns, if any, do you have about the TCA arrangements (e.g. expectations, reimbursement, paperwork, communication etc)
 - o What solutions might address your concerns?
- > What general concerns, if any, do you have in working with GPs in the management of patients with chronic disease? (e.g. paper work, cost to patient, time consuming, poor communication)
 - o What solutions might address your concerns?

Processes of interacting with GPs and other AHPs (inc TCAs)

We are particularly interested in understanding how AHPs and GPs interact in the course of management of patients with chronic disease within the primary health care setting (Including under TCAs)

- > What is the usual process of referral of patients with chronic disease from GPs (primary health care practices)?
- > Based on your experiences, are the referrals you receive generally appropriate to how you see your role in the management of patients with chronic disease?
- > To what extent is your input sought by GPs (or the practice) in the development of the overall management plan?
 - o How critical/or not do you think your input is?
- > What are the enablers and barriers to development of an optimal (multidisciplinary) care plan for patients with chronic disease in the primary health care setting?

- > How do you usually communicate with GPs (practice) about the management of patients with chronic disease?
 - o How do you usually provide feedback about a particular patient?
- > Have you personally established ongoing relationships with particular GPs?
 - o How did this come about and what benefits do you see in this?
- > When are you likely to consult/interact with and/or refer to other AHPs in the management of chronic disease (both within current practice and outside)?
 - o How do you find these experiences?
- > How does your current practice setting affect the way in which you work with GPs and other AHPs within primary health care settings in the management of patients with chronic disease?
 - o Internal resources; relationships and networks; funding; disciplinary base etc
- > What do you think are the advantages/disadvantages of having AHP integrated within CHH, for the patients; for you as AHP?
 - o Is it a model more suited to some AHPs? (e.g. more experienced?) ? Burn-out?
 - o Is an integrated model sustainable from your point of view? (financially, professionally etc)
- > How could the integrated model be improved?

Changes in practice

We are interested in knowing whether, and in what ways, working with GPs and other AHPs within primary health care settings (inc under TCA) in the management of chronic disease influences your practice.

- > Has working with GPs in this setting changed your own practice in any significant way?
 - o How is it different to your usual/previous approach?
- > What do you see are the impacts of the role of AHPs in the management of patients with chronic disease on the professional interactions/relationships/dynamics within your current practice setting?

Satisfaction with role of AHPs

Finally, we are interested to know how satisfied you are overall with the role of AHPs and your interaction with GPs in the management of patients with chronic disease within the primary health care setting.

- > What about the role of AHPs in the management of patients with chronic disease in primary health care settings appeals to you most? And least?
- > What do you personally feel are the professional benefits of working with GPs (inc under TCA) in the management of patients with chronic disease? Any limitations?
- > How satisfied overall would you say you are with the current model (funding, organisation, Medicare limits etc) of team care in the management of patients with chronic disease in the primary health care setting?
 - o In what ways might the current model be improved to optimise TCAs and benefit patients with chronic disease?

- > Based on your experiences of working with GPs and primary health care practices in the management of patients with chronic disease do you see yourself continuing to participate in TCAs and/or expanding the opportunities in the future?

Are there any other aspects of the role of AHPs in the management of patients with chronic disease in primary health care settings that we have not covered; other comments that you would like to add?

C. AHP Focus Group (External to CHHC group)

Perceptions of the role of AHP

First, we are interested in knowing how you view the role of AHPs in the management of patients with chronic disease (**UI, OA, Diabetes**).

- > **ROLE:** How would you describe the nature and purpose of AHPs in the management of patients with chronic disease?
- > **USE:** How do GPs use your expertise/role in the management of patients with chronic disease?
 - o To what extent (and how) have you tried to influence GP perceptions?
- > **BENEFIT:** What about the role of AHPs in the management of patients with chronic disease is particularly beneficial to the overall management of patients?
- > **OUTCOMES:** How do you see your role influencing the outcomes of patients with chronic disease managed? (improving access, self-management etc)
- > **EXPERIENCES:** How would you describe your experiences working with GPs and other AHPs in the management of patients with chronic disease?

Participation in multidisciplinary team care (inc TCAs) with GPs and AHPs

Interested in various arrangements for participation in formal team care with GPs and other AHPs

- > What are the **various programs** which facilitate your involvement in team care for patients with chronic disease? (UI, OA, Diabetes)
 - o Proportion of time you spend etc
 - o **level/extent of involvement with GPs** right now in the management of patients with chronic disease? (including TCAs)
- > What **appeals** to you most about these programs?
 - o Collaboration, interaction with other professionals, knowledge etc
- > In your experience, do they facilitate more interaction with GPs, other AHPs?
- > What **particular concerns**, if any, do you have about these various programs (e.g. expectations, reimbursement, paperwork, communication etc)
 - o How adequate/satisfactory are these programs? E.g. Medicare TCA?
 - o What solutions would address your concerns?
- > What are the **enablers and barriers to development of an** optimal team care for patients with chronic disease?
- > How does your **current practice setting affect the way in which you work with GPs and other AHPs** in the management of patients with chronic disease?
 - o Internal resources; funding; disciplinary base etc

Processes of interacting with GPs and other AHPs (inc TCAs)

We are particularly interested in understanding how AHPs and GPs interact in the course of management of patients with chronic disease (Including under TCAs)

- > What is the usual **process of referral** of patients with chronic disease from GPs?
 - o Appropriateness
- > To what extent is your **input sought** in the development of the care management plan?
 - o How critical/or not do you think your input is?
- > How do you usually **communicate with GPs** (practice) about the management of patients with chronic disease?
 - o How do you usually provide feedback about a particular patient?
- > Have you personally **established relationships** with particular GPs?
 - o How did this come about and what benefits do you see in this?
- > What **particular concerns**, if any, do you have in **working with GPs** in the management of patients with chronic disease? (e.g. paper work, cost to patient, time consuming, poor communication)
 - o What solutions might address your concerns?
- > To what extent would you consult/interact with and/or refer to **other AHPs** in the management of chronic disease (both within current practice and outside)?

Changes in practice

We are interested in knowing whether, and in what ways, working with GPs and other AHPs (inc under TCA) in the management of chronic disease influences your practice.

- > In what ways do you find your **practice being different from your usual approach** when you are working with GPs and other AHPs under specific team care programs?
 - o How has the TCAs (under Medicare) changed your practice (**micro, meso**) around the management of patients with chronic disease?
- > How do you see your role in the management of patients with chronic disease impacting on **interactions/relationships/dynamics** with other health professionals?
- > In what ways do you find your practice setting as a whole being different from the usual approach as a result of working with GPs (inc under TCA) in the management of patients with chronic disease?

Satisfaction with role of AHPs

Finally, we are interested to know how satisfied you are overall with the role of AHPs and your interaction with GPs in the management of patients with chronic disease.

- > What about your role (AHP) in the management of patients with chronic disease in primary health care settings **appeals to you most? And least?**
- > What do you personally feel are the **professional benefits** of working with GPs and other AHPs in the management of patients with chronic disease? Any limitations?
- > How satisfied overall would you say you are with the **current arrangements** (funding, organisation, Medicare limits etc) for funding AHP role and team care?
 - o In what ways might the current model be improved to optimise TCAs and benefit patients with chronic disease?

- > Do you see yourself continuing to seek/participate in opportunities for team care in the future?

Are there any other aspects of the role of AHPs in the management of patients with chronic disease in primary health care settings that we have not covered; other comments that you would like to add?

D. CHHC GP Focus Group Questions

Awareness and perceptions of the role of AHP

First, we are interested in knowing how you perceive the role of AHPs in the management of patients with chronic disease, in the primary health care setting.

- > UNDERSTANDING - What is your understanding of the role of AHPs in the management of patients with chronic disease?
- > BENEFIT to patients - What about the role of AHPs is particularly beneficial to the overall management of patients with chronic disease?
 - o How do you see the role of AHPs influencing the outcomes of patients with chronic disease? (improving access to equipment, self-management etc)
- > EXPERIENCES - In general, have your experiences with AHPs in the management of patients with chronic disease been positive? Why/why not?

Participation in TCAs with AHPs

There are variances in GP practices concerning interactions with AHPs in the management of patients with chronic disease and the extent to which they participate in TCAs.

- > DECISION-MAKING TCA - What kind of decision-making process do you go through in thinking about whether or not to involve AHPs in the management of patients with chronic disease?
 - o What particular issues do you consider about the patient, practice, AHPs etc?
- > CONCERNS working with AHP - What particular concerns, if any, do you have in working with AHPs in the management of patients with chronic disease? (e.g. paper work, cost to patient, time consuming, poor communication)
 - o What solutions might address your concerns?
- > LEVEL OF INVOLVEMENT - How would you describe your level/extent of involvement with AHPs right now in the management of patients with chronic disease?

Processes of interacting with AHPs (inc TCAs)

We are particularly interested in understanding how you interact with AHPs in the course of management of patients with chronic disease within the primary health care setting (Including under TCAs)

- > DECISION-MAKING TYPE AHP - How do you decide what type of AHP to involve in the management of these patients?
- > PROCESSES REFERRAL, FEEDBACK? RELATIONSHIPS?- How does your current practice environment affect the way in which you work with AHPs in the management of patients with chronic disease?
 - o Usual process for referral; communication processes; internal resources; relationships and networks
 - o Have you personally established relationships with particular AHPs? How did this come about?

- > INPUT FROM AHP - To what extent would you seek input from AHPs in the development of the overall management plan? How critical/or not is their input into the plan?
- > FEEDBACK FROM AHP? USEFUL?- Do you usually get feedback from AHPs about the management of patients with chronic disease? Do you seek this feedback? How useful is it?
- > BENEFITS INTEGRATED CHH - What are the advantages and disadvantages of having AHPs integrated within CHH, for the patients; for you as GPs?
- > IMPROVEMENTS INTEGRATED CHH - How could this integrated model be improved?

Changes in practice

We are interested in knowing whether, and in what ways, the role of AHPs in the management of chronic disease influences your practice.

- > INFLUENCE ON YOUR PRACTICE - How is your clinical practice influenced through working with AHPs in the management of patients with chronic disease? (eg improved knowledge, changes in what type of patient you would refer)
- > IMPACTS ON RELATIONSHIPS/INTERACTIONS IN PRACTICE - What do you see are the impacts of the role of AHPs in the management of patients with chronic disease, on the professional interactions/relationships/dynamics within your current practice setting?
- > PRACTICE AS A WHOLE CHANGED? - Has the practice as a whole changed as a result of working with AHPs in the management of patients with chronic disease?

Satisfaction with role of AHPs

Finally, we are interested to know how satisfied you are overall with the role of AHPs and your interaction with them in the management of patients with chronic disease within the primary health care setting.

- > APPEAL MOST - What about the role of AHPs in the management of patients with chronic disease in primary health care settings appeals to you most? And least?
- > PROFESSIONAL BENEFITS - What do you personally feel are the professional benefits of working with AHPs in the management of patients with chronic disease? Any limitations?
- > SATISFACTION OVERALL - How satisfied overall are you with the current model (funding, organisation, communication etc) of working with AHPs in the management of patients with chronic disease in the primary health care setting?
 - o IMPROVEMENTS - In what ways might the current model be improved to optimise TCAs and benefit patients with chronic disease?

Are there any other aspects of the role of AHPs in the management of patients with chronic disease in primary health care settings that we have not covered; other comments that you would like to add?

E: Interview with Senior Practice Management

1. Description of CHH model

First, we are interested in gaining an understanding of the CHH model

- > Can you start by telling me about the CHH model
 - o Key features

- o Staffing, including GP, AHP others
- o Business model
- o How it operates (governance etc)
- o How are electronic records use by AHPs and non-doctors?
- o How are strategic business decisions made (eg employing a new type of AHP)
- > What are the various sources of funding that support the CHH model? (will talk about AHP later)
 - o Explore adequacy, business viability, sustainability
- > What are some of the critical (external) relationships that support the CHH model?

Include relationships with funders, service providers, professional organizations.

2. Role of AHP within the CHH model

We also want to know more about the role and contribution of AHPs within the CHH model

- > What are the structural and funding arrangements for the various AHPs working here
 - o Explore adequacy, business viability, sustainability
 - o Can patients only see AHPs via a referral from CHHC GPs?
 - o How is interprofessional conflict resolved and communication enhanced?
 - o Is there AHP input into practice policy?
- > What are the advantages and disadvantages of having AHPs integrated within CHH, for the patients; for you as GPs?
- > How could this integrated model be improved?

3. Innovation and change in system design

We are interested in knowing more about development of innovation and change in system design

- > From your experience, what does/did it take to develop a successful CHH model of integrated multidisciplinary practice?
 - o Explore resources, relationships, time, motivation, committed staff etc
- > What do you see are the impacts of the CHH model on professional interactions, relationships and dynamics?
- > In what ways has the approach to management of patients with chronic disease changed over time with the evolution of the CHH model?
- > How do you see the development of Medicare Locals contributing to innovation and change in primary health care system design?
 - o From the perspective of the CHH model, will there be particular advantages; disadvantages?

4. Your assessment of the CHH model

Do you consider that the CHH model works?

- > How does it contribute to improving outcomes for patients?
- > To provide a satisfactory and satisfying experience for the staff?

Why do you think that the CHH model works?

- > Business model?
- > Ownership structure?
- > Do you think the CHH model is transferrable to other general practice settings?
- > Do you think there are key pre-conditions for the model to be transferrable?

Are there any things about the CHH model that could be done more effectively?

5. Satisfaction

- > How satisfied overall are you with current arrangements for CHH models of primary health care
 - o Explore funding, infrastructure, capacity building etc
 - o Explore viability, sustainability
 - o In what ways might current arrangements be improved to optimise team care and benefit patients with chronic disease?

Are there any other aspects of the CHH model or role of AHPs in the management of patients with chronic disease that we have not covered; other comments that you would like to add?

APPENDIX 3 MEMBERSHIP OF THE PROJECT ADVISORY COMMITTEE AND RESEARCH TEAM

Advisory Committee

Member	Organisation
Mark Booth	Department of Health & Ageing, Commonwealth of Australia
A/ Prof Jeff Coombes	Allied Health Professions Australia and Exercise & Sports Science Australia
Suzanne Kuys	Australian Physiotherapy Association
Peter Lazzarini	Australasian Podiatry Council
Stephen Marburg	Continence Foundation of Australia
Anne Matyear	Australian Practice Nurses Association
Jessica McCormack	Dietitians Association of Australia
Dianne Berryman	Occupational Therapy Australia
Gilbert Yeates	Pharmaceutical Society of Australia
Dr Peter Anderson	Diabetes Australia, Queensland
Emma Howell	Home and Community Care, Department of Communities, Queensland Health
Tanya de Kroo	Arthritis Australia
Jane Bacot-Kilpatrick	Australian General Practice Network
Rachel Yates	Australian General Practice Network
Martin Mullane	Department of Health & Ageing, Commonwealth of Australia

Research Team

The University of Queensland

Prof. Geoffrey Mitchell PhD FRACGP, FACHPM

Dr. Hugh Senior PhD

Assoc. Prof. Michele Foster PhD

Dr. Tim Henwood PhD, AEP, MESSA

Daniel De Souza (Project Manager) MCLinExp, AEP, MESSA

Camp Hill Healthcare, Brisbane

Dr. Ian Williams FRACGP

Jan Chaffey B.Phyt. FAAPM

Robyn Chambers RN

Chris Freeman BPharm, GDipClinPharm, AACPA, MPS

APPENDIX 4 FINDINGS FROM THE FIRST GERIATRIC ASSESSMENT OF ALL OLDER PEOPLE

Demographics	Total	Male	Female
Number of Patients n (%)	868	282 (32.8)	577 (67.2)
Mean Age yrs (SD, range)	81.8 (4.8, 66-103)	82.0 (70-103)	81.8 (4.7, 66-98)
Aged 75-85 yrs n (%)	656 (78.1)	217 (33.1)	439 (78.1)
Aged > 85 yrs n (%)	184 (21.9%)	61 (33.2)	123 (21.9)
Av. No. of Assessments (SD, Range)	2.0 (1.2, 1-7)	2.1(1.2, 1-7)	2.0 (1.2, 1-6)

Living Situation (n= 830)

Living Situation	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Lives Alone	45.3	23.3	56.2	42.4	55.1
Live in Carer	.1	.4	0	.2	0
Lives with Married/ De Facto Partner	47.2	72.7	34.4	51.1	34.1
Lives with Sibling/Child	7.3	3.6	9.3	6.3	10.8

Housing (n= 836)

Housing	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Living with Children	1.6	1.1	1.8	1.2	2.9
Government Rental	4.5	4.0	4.7	4.8	3.5
Own Home	90.1	89.7	90.3	90.4	88.4
Private Rental	3.7	5.1	3.1	3.6	4.6
Independent Hostel Unit	0.1	0	.0.6	0	.6

Self-Rated Health Rating (n = 841)

Self-rated Health	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Poor	10.5	14.9	8.5	10.2	11.0
Fair	36.5	34.0	37.8	35.7	37.0
Good	43.3	44.8	42.6	43.7	43.4
Very Good	8.1	4.1	9.9	8.7	6.9
Excellent	1.7	2.2	1.2	1.7	1.7

Current Health Issues- Arthritis, Mobility, Balance (n= 868)

Current Mobility Health Issue	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Arthritis, Mobility, Balance Problem (n=341):	39.3	34.4	41.2	38.3	42.2
Arthritis	38.4	28.9	42.9	37.2	41.0
Back Pain or Mobility Pain	41.3	43.3	40.3	47.0	25.6
Other Balance or Mobility	20.2	27.8	16.8	15.8	33.3

Patient understands what medications are for (n= 798)

Understands what medications are for	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	10.8	14.0	9.4	9.4	16.5
Yes	89.2	86.0	90.6	90.6	83.5

Consumes Alcohol (n= 857)

Consumes Alcohol	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	63.1	45.5	71.5	61.4	69.1
Yes	36.9	54.5	28.5	38.6	30.9

Smokes Cigarettes (n= 861)

Smokes Cigarettes	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	95.8	95.0	96.2	98.4	98.6
Yes	4.2	5.0	3.8	1.6	1.4

Mean no. Cigarettes per day = 12.5 (range 1 -50, SD = 10.1), Female =12.7 (1-25, SD = 7.0), Male = 12.2 (2-50, SD=14.1)

Has had Leg Ulcers (n= 815)

Has had Leg Ulcers	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	86.3	84.8	86.9	81.6	74.2
Yes	13.7	15.2	13.1	18.4	25.8

Mobility (n= 850)

Mobility	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No Significant Deficit	54.8	55.5	54.2	41.5	23.8
Significant Deficit	45.2	44.5	45.8	58.5	76.2
Not confident in Mobility	21.4	20.3	22.0	20.6	24.2
Confident in Mobility	78.6	79.7	78.0	79.4	75.8

History of fall (n= 865)

History of Falls	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	41.4	49.6	37.2	44.8	29.3
Yes	58.6	50.4	62.8	55.2	70.7
Falls in Past 6-Months					
No	68.4	65.6	69.7	70.7	60.0
Yes	31.6	34.4	30.3	29.3	40.0

Number of Falls in Past 6 Months (n=868). 31.6% patients experienced fall in past. Mean = 1.9 Falls (range 1-12) with 55.1% of people who have fallen experiencing 1 fall, and 21.5% experiencing greater than 3 falls in past 6 months.

Regular Exercise (n= 821)

Regular Exercise	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	54.9	56.0	54.6	52.2	62.5
Yes	45.1	44.0	45.4	47.8	37.5

Referral for Mobility Pain (n = 868)

Referral for Mobility Pain	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Physiotherapy	82.4	80.0	83.2	80.3	90.2
Exercise Therapy	16.1	20.0	14.6	17.8	9.8
Occupational Therapy	.5	0	.7	.7	0
General Practitioner	.5	0	.7	.7	0
Medical Specialist (Geriatrician. Rheumatologist, Cardiologist)	.5	0	.7	.7	0

Mobility Aids (n= 868)

Mobility Aids	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Used	38.7	34.2	28.7	34.8	51.4
Not Used	61.3	65.8	71.3	63.2	48.6
<i>Type of Aid (if used)</i>					
Walking Stick	65.2	76.9	60.2	63.9	69.2
Canadian Crutch	1.4	1.9	1.2	2.1	0
Walking Frame	31.5	19.4	36.9	31.5	30.8
Wheelchair	1.7	1.9	1.2	2.1	0
Motorised Scooter	.3	0	.4	.4	0

Mobility Aids	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>When Aid is Used</i>					
All the Time	58.0	52.0	60.3	56.5	63.2
Outside the house only	34.8	39.0	33.2	34.8	32.6
Inside the house only	.6	1.0	.4	.9	0
Sometimes	.6	0	.9	.9	0
Rarely / As needed	6.0	8.0	5.2	7.0	4.2

Sensory Impairment

Sensory Impairment	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>Vision Impairment (n= 863)</i>					
Not Significant	75.1	74.5	75.7	76.7	69.4
Significant	24.9	25.5	24.3	23.3	30.6
<i>Hearing Impairment (n= 861)</i>					
Not Significant	65.3	53.9	71.0	69.3	50.8
Significant	34.6	45.7	29.0	30.6	49.2
<i>Vision Impairment Referral for Eye Check</i>					
Referred	29.5	33.3	28.4	32.7	22.4
<i>Hearing Impairment Referral</i>					
Audiologist/ENT (if referred)	18.7	14.0	21.7	20.3	14.4
GP (if referred)	5.4	8.5	3.0	6.9	2.2

Drivers Licence (n= 829)

Drivers Licence	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	56.7	35.4	67.6	51.0	74.4
Yes	43.3	64.6	32.4	49.0	25.6

Weight (measurement dependent on patient having scales at home)

Weight (n= 734)	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Mean (kg)	67.36	74.73	63.55	68.83	62.30
Minimum	32	40	32	37	32
Maximum	133	133	120	133	120
SD	15.1	13.4	14.6	15.2	14.0

Pain

Pain	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>Pain Management (n= 631)</i>					
Not a Problem	79.9	83.9	77.8	78.3	87.5
Problem	20.1	16.1	22.2	21.7	12.5
<i>Pain Scale (if in pain) (1-10) (n= 261)</i>					
Mean	5.49	4.99	5.74	5.51	5.38
SD	2.49	2.31	2.49	2.50	2.40
Range	1-10	1-10	1-10	1-10	1-8

Diabetes Mellitus /Impaired Glucose Intolerance (n= 868)

Diabetes/ IGT	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
None	83.4	77.7	86.3	80.9	93.0
IGT	.7	1.4	.3	.9	0
Type 1 DM	.6	1.4	.2	.8	0
Type 2 DM	15.3	19.5	13.2	17.4	7.0
<i>Referral (n= 36)</i>					
Diabetes Educator	61.1	46.2	69.6	62.1	50.0

GP	38.9	53.8	30.4	37.9	50.0
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Foot Care

Independent Foot Care (n= 868)	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	23.5	25.5	22.5	23.3	25.9
Yes	75.7	74.1	76.4	75.9	73.0
<i>Foot Care Referral (n= 204, 23.5%)</i>					
Podiatrist	98.0	100.0	96.9	97.4	100.0
GP	2.0	0	3.1	2.6	0

Coping in Home (n= 820)

Coping in Home	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	2.9	3.4	2.8	3.2	1.8
Yes	97.1	96.6	97.2	96.8	98.2

Depression and Anxiety (n= 834)

Depression and Anxiety	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>Has Depressed Feelings</i>					
Not at all	57.2	60.2	55.6	57.2	59.4
Sometimes	37.3	34.6	38.6	37.6	35.4
Often	5.5	5.3	5.7	5.2	5.1
<i>Has Anxiety</i>					
Not at all	49.9	57.6	46.2	50.4	50.9
Sometimes	42.0	35.2	45.1	41.3	41.6
Often	8.2	7.2	8.7	8.3	7.5
<i>Experiences Loneliness</i>					
Not at all	71.1	81.5	66.3	73.6	63.8
Sometimes	25.9	16.2	30.4	23.9	32.8
Often	3.0	2.3	3.4	2.5	3.4
<i>Geriatric Depression Scale (0-12)</i>					
Indicated: Yes	71.1	74.8	69.2	71.6	69.7
Mean	2.59	2.75	2.52	2.43	3.10
SD	2.63	2.63	2.64	2.52	2.95
<i>Geriatric Depression Scale (1-12)</i>					
Mean	3.26	3.32	3.24	3.10	3.79
SD	2.55	2.54	2.57	2.45	2.83

Memory and Cognition	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>Memory Deficit (n= 821)</i>					
Not Significant	86.8	86.2	87.1	88.7	79.9
Significant	13.2	13.8	12.9	11.3	20.1
<i>Mini-Mental State Examination (MMSE)</i>					
Indicated: Yes (%)	55.6	55.3	55.9	57.9	49.1
Mean (0-30)	26.67	26.75	26.61	27.01	25.23
SD	3.63	2.91	3.94	3.47	4.01

Mood, Memory and Cognition Referral (n= 851)

Mood, Memory and Cognition Referral (n=)	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
GP	41.0	35.7	44.0	40.6	50.0
Geriatrician	10.3	7.1	12.0	9.4	0
Occupational Therapist for Cognitive Testing	35.9	42.9	32.0	37.5	33.3
Psychologist	12.8	14.3	12.0	12.5	16.7

Activities of Daily Living (ADLs, IADLs)

ADLs	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
<i>Meal Preparation (n= 851)</i>					
Independent	55.6	40.4	63.0	59.3	42.8
Dependent on others	18.3	30.7	12.4	16.8	30.0
Prepares some meals	26.0	28.9	24.6	23.9	32.2
<i>Bathing (n=849)</i>					
Independent	87.9	87.5	88.0	89.4	82.0
Dependent	1.9	2.2	1.8	1.5	3.4
Needs some help	10.2	10.3	10.2	9.1	14.6
<i>Dressing (n= 848)</i>					
Independent	91.6	89.0	92.8	91.7	91.0
Dependent	1.2	1.1	1.2	1.2	1.1
Needs some help	7.2	9.9	6.0	7.1	7.9
<i>Housework (n= 839)</i>					
Independent	14.3	24.0	9.8	12.0	22.9
Dependent	31.9	33.3	31.1	35.7	20.6
Needs some help	53.8	42.7	59.1	52.3	56.6
<i>Phone Use (n= 842)</i>					
Independent	95.8	95.1	96.1	96.7	92.6
Dependent	2.3	3.0	1.9	1.7	4.5
Needs some help	1.9	1.9	1.9	1.6	2.8
<i>Shopping (n= 839)</i>					
Independent	56.7	61.2	54.6	62.0	39.5
Dependent	18.8	20.5	17.8	16.0	29.1
Needs some help	24.4	18.3	27.6	22.0	31.4

Urinary Incontinence (n= 851)

Urinary Incontinence	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
None	65.1	83.2	56.2	64.8	66.9
Slight	28.8	13.6	36.4	29.0	27.6
Moderate	5.5	2.9	6.7	5.4	5.5
Heavy	.6	.4	.7	.8	0

Urine Loss with Coughing and Sneezing (n= 752)

Urine Loss with Coughing/Sneezing	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	75.9	97.1	67.5	74.4	82.1
Yes	24.1	2.9	32.5	25.6	17.9

Type of Urinary Incontinence (n= 311)

Urinary Incontinence	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Dribbling	2.3	12.2	.4	2.5	1.7
Reflex	1.0	2.0	.8	.8	1.7
Stress	19.3	4.1	22.1	21.8	10.2
Urge	40.8	75.5	33.7	37.0	55.9
Urge/Stress	36.7	6.1	43.0	37.9	30.5

Bladder Infection (n= 799)

Bladder Infection	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Not significant	90.4	94.7	88.2	89.9	92.0
Significant	9.6	5.3	11.8	10.1	8.0

Nocturia (n= 850)

Nocturia	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
Not an Issue	55.8	49.6	58.9	56.2	53.1
An Issue	44.2	50.4	41.1	43.8	46.9
Mean No. of times per night (SD)	1.49	1.71	1.38	1.49	1.54
SD	1.12	1.21	1.05	1.10	1.17

Incontinence Pads in Use (n= 857)

Incontinence Pads in Use	Total (%)	Male (%)	Female (%)	75-85 Age Grp (%)	>85 AgeGrp (%)
No	76.2	91.7	68.7	76.4	76.4
Yes	23.8	8.3	31.3	23.6	23.6

Blood Pressure and Heart Rate (n =868)

Blood pressure	Total	Male	Female	75-85 Age Grp	>85 AgeGrp
Mean SBP (SD)	140.6 (21.0)	137.2 (21.3)	142.1 (20.7)	140.8 (20.5)	139.1 (22.1)
Mean DBP (SD)	73.2 (11.4)	72.0 (11.5)	73.8 (11.4)	73.4 (11.4)	71.9 (11.3)
Mean HR (SD)	68.6 (11.0)	66.0 (10.4)	69.8 (11.0)	68.0 (11.0)	69.3 (10.9)

APPENDIX 5 HEALTH STATUS OF THE THREE INDEX CONDITIONS

1 Diabetes Mellitus Type 2: Health Status

Sixty percent of the ten participants with diabetes rated their self-rated health at the last assessment as 'good', with others rating as poor or fair. Not one of the participants' consumed alcohol or smoked cigarettes. No participant reported experiencing leg ulcers. Over half (63%) of participants (who responded to this question) reported a significant deficit with mobility, and a quarter reported a lack of confidence with mobility. Three people had previously experienced a fall, with one of these having fallen in the previous six months. Half of the participants used either a walking stick or frame, with two people using aids all of the time. Only two participants reported participating in regular exercise. The majority of participants were independent for the following activities of daily living of bathing (88%), dressing (88%), and phone use (100%). Many needed help with housework (87%) and shopping (38%). Seventy percent of participants reported the presence of arthritis, and all were experiencing arthritis pain.

Body Mass Index (BMI)⁷ was 21 to 36 kg/m². Only one participant has a healthy BMI, while three were overweight and four obese. Mean (SD) Systolic Blood Pressure (SBP) was 135 (19.5), (range 105-170 mmHg) and Diastolic Blood Pressure (DBP) in normal range for all participants. The SBP was similar at the first assessment for participants (mean SBP = 132.5 mmHg).

Seventy percent of participants had at least three morbidities including diabetes. Two participants were diagnosed with micro- complications to diabetes, namely neuropathy and retinopathy.⁸ One patient was diagnosed with peripheral vascular disease.

Four participants reported experiencing pain ranging from five to ten on a visual analogue scale (0-10) with ten being the worse imaginable pain. Only one participant was sometimes depressed and lonely, but half experienced anxiety from time to time. One participant reported that they were not coping in their home.

Four older people completed the geriatric depression scale⁹ at the last assessment with a mean score (SD) of 2.0 (2.2) with one person having a level of seven indicating depression. There was no memory deficit reported and of the eight who completed a MMSE test¹⁰, the mean score (SD) was 28.5 (1.20).

Half of the participants had slight to moderate urinary incontinence with both urge and stress incontinence diagnosed. Six participants told they had nocturia on average twice a night.

2 Arthritis: Health Status

Fifty-five percent of the nine participants with osteoarthritis rated their self-rated health at the last assessment as 'good' or 'very good'. Others rated their health as poor or fair. A third of the participants' consumed alcohol, but none smoked cigarettes.

No participant reported experiencing leg ulcers.

Ninety percent of participants reported a significant deficit with mobility, and two reported a lack of confidence with mobility. Seven people had previously experienced a fall, with two of

⁷ BMI calculated as (weight (kg)/ height² (m)) BMI is classed as healthy (BMI=18.5-24.9), overweight (BMI = 25.0-29.9), or obese (BMI=30.0-39.9).

⁸ Identified from medical records.

⁹ A short Geriatric Depression Scale (GDS) Scores greater than 5 suggest the presence of depression.

¹⁰ Mini-mental state examination (MMSE) scores greater than or equal to 25 points (out of 30) is effectively normal (intact).

these having fallen in the previous six-months. This is similar to the first assessment, where six people had fallen previously and a decrease from the first assessment where five people had fallen in the previous six-months. Sixty-seven percent of the participants used a walking stick; with one person using a walking stick all of the time. Only two participants reported participating in regular exercise. The majority of participants were independent for the following activities of daily living of bathing (89%), dressing (89%), and phone use (100%). Many needed help with housework (78%) and shopping (44%). All participants were diagnosed with osteoarthritis, and all were experiencing arthritis pain.

BMI ranged from 21 to 32 kg/m². Three participants displayed a healthy BMI, three were overweight and one was obese. SBP (mean (SD, range) was 134 (19.5, 115-180 mmHg) and mean DBP in normal range, with three participants had a DBP ≥ 80. The blood pressure was similar at the first assessment for participants (mean SBP = 136 (17.3)).

All participants had at least three morbidities (range 3-12) including osteoarthritis. Eighty-nine percent of older people reported pain management as a current issue. This is a substantial increase on the first assessment where 25% report a problem with pain management. Eighty-nine percent of participants reported experiencing pain ranging 5-8 on a visual analogue pain scale (0-10). In the first assessment, 62% recorded experiencing pain on the scale ranging from 1-8.

In the last assessment, a third was sometimes depressed and a fifth lonely, and one person was anxious occasionally. No participants reported that they were not coping in their home. Eight older people completed the GDS at the last assessment with a mean score (SD) of 2.1 (1.3). There was one person who reported a memory deficit and all participants completed a MMSE test, the mean score (SD) was 27.8 (1.92).

A third of the participants had slight to moderate urinary incontinence with both reflex and stress incontinence diagnosed. Three participants told they had nocturia on average twice a night, and one participant experiencing nocturia four-times per night.

3 Urinary Incontinence: Health Status

Fifty percent of the participants with urinary incontinence rated their self-rated health at the last assessment as 'good' or 'very good', 40% rated their health as fair and 10% as poor.

A fifth of the participants' consumed alcohol, and one smoked cigarettes (ten cigarettes per day).

Fifty percent of participants reported a significant deficit with mobility and a lack of confidence with mobility. Forty percent had previously experienced a fall, with two of these having fallen three-times in the previous six-months. This is an increase to the first assessment, where three people had fallen previously and a decrease from the first assessment where three people had fallen in the previous six-months. Sixty percent of the participants used a walking stick or frame; with one person using a walking aid all of the time. Half of the participants reported participated in regular exercise. The majority of participants were independent for the following activities of daily living of bathing (90%), dressing (100%), and phone use (100%). Many needed help with housework (90%) and shopping (40%). No participant reported experiencing leg ulcers.

Body Mass Index (BMI) ranged from 19 to 33 kg/m². Four participants displayed a healthy BMI, four were overweight and one person was obese. SBP (mean (SD, range)) was 134 (14.5), 120-170 mmHg) and mean Diastolic Blood Pressure in normal range, with one participant had a DBP ≥ 80 mmHg. The blood pressure is slightly less than the first assessment for participants (mean SBP (SD) = 139 (9.7) mmHg).

All participants had on average seven morbidities (range 3-12) including urinary incontinence. One participant had Type 2 diabetes as comorbidity and 70% had osteoarthritis (n=5) and rheumatoid arthritis (n=2).

Forty percent of older people reported pain management as a current issue, and 70% reported pain from arthritis as an issue. This is a substantial increase on the first assessment where 20% report a problem with pain management. Fifty percent of participants reported experiencing pain ranging 5-8 on a visual analogue pain scale (0-10). In the first assessment, 30% recorded experiencing pain on the scale ranging from 6-8.

In the last assessment, a large majority of 80% was sometimes depressed and 40% lonely and 50% were anxious sometimes. The proportion of depression is identical to the first assessment. No participants reported that they were not coping in their home. One person was referred to the GP for mood or anxiety. All older people completed the GDS at the last assessment with a mean score (SD) of 4.0 (3.9) and 30% at a score greater than five indicating depression. In the first assessment, two people had depression according to the GDS. There was one person who reported a memory deficit and nine participants completed a MMSE test, the mean score (SD) was 29.1 (0.60). All participants were cognitively intact.

All participants had slight to moderate urinary incontinence with both urge and stress incontinence diagnosed. Ninety percent of participants reported nocturia on average once a night, and one participant experiencing nocturia six-times per night. This is an increase on the first assessment where 80% reported nocturia, but the number of times has decreased from an average of twice per night. Incontinence pads were worn by 80% of older people with urinary incontinence, and there were supplied by the Department of Veteran Affairs, Medical Aids Subsidy Scheme, and Continence Aids Payment Scheme. Two people were purchasing their own pads. The proportion of older people using pads has not changed since the first assessment.

APPENDIX 6 PATTERNS OF AHP AND NURSE SERVICE UTILIZATION IN INDEX CONDITIONS

Diabetes Mellitus Type 2: Allied Health Referrals at last assessment or over past 12-months in medical records

Pharmacist: The majority of participants (86%) understood what their medications were for, and only one patient was referred by the nurse to a pharmacist for home medication review. However, medical records state that the pharmacist undertook medication review on 70% of the participants within the previous 12-months with 1-2 visits.

Optometrist: Two participants were referred by the nurse for vision problems.

Audiologist/ENT: Half of the participants reported hearing problems, and two were referred for a hearing assessment.

Podiatrist: Only one participant reported that they were independent in foot care. At the last assessment, the nurses referred half of all older people to podiatrist care. The medical records specify there were 8 referrals, and older people had between 5 to 15 visits.

Diabetes Educator: At the last assessment only one participant was referred to diabetes education. Thirty percent were referred at the first assessment. All but one participant have ongoing problems with weight, and four participants had a BMI indicative of obesity. The medical records show that six patients were referred for diabetes education and that four attended at least one appointment. The GPs are the predominant referrers for diabetes education.

Exercise Therapist or Physiologist: No participants were referred for exercise therapy or physiology at the last assessment or in the medical records. Eighty percent of the participants did not participate in regular exercise.

Occupational Therapist: One participant received a referral for occupational therapy.

Physiotherapist: Thirty percent of older people were referred to a physiotherapist with either 1 or 2 visits at the last assessment.

Dietician: Two older people were referred to a dietician based on the medical records and one participant attended three sessions. Seventy percent of the older people were overweight or obese.

Practice Nurse: Only one older person did not see the practice nurse at the practice for healthcare. Older people had a range of number of visits from 1 to 7.

Arthritis: Allied Health Referrals at last assessment or over past 12-months in medical records

Pharmacist: The majority of participants (88%) understood what their medications were for and only one patient was referred by the nurse to a pharmacist for home medication review. However, medical records state that the pharmacist undertook medication review on 44% of the participants within the previous 12-months with 1-2 visits. This is a considerable increase on the first assessment where one person was referred to a medication review.

Optometrist: Fifty-six percent reported vision impairment. There were no referrals by the nurse for vision problems at the last assessment.

Audiologist/ENT: Forty-four percent of the participants reported hearing problems, and there were no referrals for a hearing assessment at the last assessment.

Podiatrist: Only two participants reported that they were independent in foot care, 78% were dependent. At the last assessment, the nurses referred 33% of all older people to podiatrist care. The medical records specify there were 6 referrals, and older people had between 1 to 8 visits.

Diabetes Educator: The medical records show that three participants were referred for diabetes education. Two attended at one appointment and one had three appointments. The GPs are the predominant referrers for diabetes education.

Exercise Therapist or Physiologist: No participants were referred for exercise therapy or physiology at the last assessment or in the medical records. More than eighty percent of the participants did not participate in regular exercise. At the first assessment, one person was referred to exercise therapy. It is not known if these therapy classes are led by a registered exercise physiologist.

Occupational Therapist: Two participants (22%) were referred for an occupational therapist to conduct a home safety assessment.

Physiotherapist: Sixty-seven percent were referred to a physiotherapist with either 2 to 5 visits at the last assessment. Four (44.4%) people were referred to a physiotherapist to assist with pain from mobility. In the first assessment, two were referred and had five appointments each.

Dietician: Only one person was referred to a dietician based on the medical records.

Practice Nurse: 63% of participants were referred to the practice nurse in the past year for healthcare from the medical records. Older people had between 1 and 3 visits.

Urinary Incontinence: Allied Health Referrals at last assessment or over past 12-months in medical records

Continence Nurse: Seventy percent of the participants were referred to a continence nurse. This is a substantial increase on the first assessment where 10% (n=1) older person was referred.

Pharmacist: The majority of participants (90%) understood what their medications were for and only one patient was referred by the nurse to a pharmacist for home medication review. However, medical records state that the pharmacist undertook medication review on 60% of the participants within the previous 12-months with 1 visit, with the exception of one participant who had four visits. This is a considerable increase on the first assessment where one older person was referred to a medication review.

Optometrist: Fifty percent reported vision impairment and one was referred by the nurse for vision problems at the last assessment.

Audiologist/ENT: Forty-four percent of the participants reported hearing problems, and there were no referrals for a hearing assessment at the last assessment.

Podiatrist: Four participants reported that they were independent in foot care, 60% were dependent. At the last assessment, the nurses referred 20% of all older people to podiatrist care. The medical records specify there were 3 referrals. The number of visits is not stated.

Diabetes Educator: One participant with UI had a comorbidity of diabetes and was referred to a diabetes educator

Exercise Therapist or Physiologist: No participants were referred for exercise therapy or physiology at the last assessment or in the medical records. Fifty percent of the participants did not participate in regular exercise. At the first assessment, one person was referred to exercise therapy. It is not known if these therapy classes are led by a registered exercise physiologist.

Occupational Therapist: Four participants (40%) were referred for an occupational therapist.

Physiotherapist: Forty percent of older people were referred to a physiotherapist. In the first assessment, two were referred and had five appointments each.

Dietician: There were no referrals to a dietician based on the medical records.

Practice Nurse: Eighty percent of older people were referred to the practice nurse in the past year for healthcare from the medical records. Older people had a range of number of visits from 1 to 13.

APPENDIX 7 ROLE OF ALLIED HEALTH IN THE MANAGEMENT OF COMPLEX PROBLEMS

AHP Role

Diversity	A diversity of tasks and practice approaches were identified as part of the AHP role in management of chronic disease including: needs assessments, coordination, prevention, treatment, self-management education, practical assistance, emotional support and counselling, functional support, and advocacy.
Problem solver	AHP were recognised for their comprehensive knowledge of referral pathways and well-established networks, and considered particularly well-placed to work with patients with complex needs, commonly referred by GPs. "It [the referral] is often for the hard patients, the difficult ones, that they [GPs] either have to spend a lot of time with or their treatment is difficult to implement" (IntAHP1M).
Enactor	The AHP role was also recognised for its practical role in enacting individually tailored care. "A GP can assist with education I believe, but then practically putting things into place,...[name] said she goes out educates and talks about incontinence, and then can assist, whereas a GP doesn't specialise in that. So that's where advocates help improves their lifestyle" (ExAHP2F).
Risk mitigator	Home visits are an added benefit of the AHP role, as they facilitate a better understanding of the patient situation, identify and address risks, and enhance prevention and comprehensive care. "I know with home visiting, I see a lot of compromised safety issues...we'll go in and see something [and] we're absolutely amazed this has gone on for the last 30, 40, 50 years. But no-one's actually been into the home to see that this was what's happening" (ExAHP7F); "If I met them in a clinic, I would think maybe their main goal might be something else. But when you see them at home, you can then understand exactly what their true functional goal perhaps is" (ExAHP3F); "They're seen in their home and all kinds of things come to light. The nurse will come back and go, they haven't got this, this is a risk" (GP10F).
Cost saver	At a broader level, AHP preventive work was identified as contributing to potential cost savings to the system. "One is the cost because if you cut out our [role] ... they go to the next level up. They might need a hospital admission. They might need a joint replacement. They might need some serious different medications that are going to cost them a fortune. So we're sort of risk managers in a way and we mitigate the risk to a large extent" (ExAHP5F).

Patient Impact

Targeted services	Multidisciplinary care was described as providing a range of benefits for patients, thus supporting more comprehensive and tailored care. "Well I think the elderly people that I see, the ones with complex care needs, are receiving more and better targeted services than I would have been able to identify a need for or to arrange if it was just me doing it all by myself" (GP8M).
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Quality time	AHP participants suggested they have more time than GPs with patients, which can facilitate patient trust, thereby enabling a more comprehensive assessment of care needs. “We’re probably the best people for them to talk to. We can spend a lot of time with them initially and that means that they’ll trust us. They’ll open up to us. They’ll be able to talk about it which is the main thing really so we can do an assessment” (ExAHP4M).
Consistency	These benefits are further enhanced within the CHHC model. “They actually see the same faces, whereas in hospitals settings it would be a different face every time... and that builds confidence in them and they are able to share”(IntAHP4F).
Suboptimal care	When discussing the Medicare TCA model, however, participants consistently identified that the limited number of appointments creates a barrier to the patient receiving sufficient information, education, and treatment to effectively manage their health concern. “And I find that probably our biggest worry are those patients that are the high risk diabetic. Because you know the two visits a year...and you’re heading them into the hospital system” (ExAHP1F).
<i>GP Benefit</i>	
Professionalised knowledge and skills	AHPs were identified as providing significant benefits to GPs within the multidisciplinary care environment. This was discussed in the GP and internal AHP groups, but was not raised in the external AHP group. This could be peculiar to the CHHC model, thus making these factors more visible, and additionally, it may be considered part of the AHP role in this setting. In particular, participants described that AHPs provide practice knowledge and skills that ‘fill gaps’ in GP practice, facilitating a more comprehensive treatment approach, and greater access to practice resources. “Just have a lot more professionalised knowledge than you do. They can find out a lot more; they can tell the patient a lot more things about the finer points of diet and finer points of how to get various things” (GP1M).
Time saver	Further, while AHPs acknowledged the time pressures within their practice, all participants agreed that AHPs are less constrained in this area than GPs which gives them greater flexibility in their practice and longer sessions with patients. “We have so much extra time than the GPs do, so we can really give priority to their [the patients] concerns” (ExAHPM4); “Possibly they [GPs] can see that we can spend a bit more time with them [patients] on specific – whether it’s education or therapy and so forth that they won’t have” (ExAHP6); “When I diagnose a new diabetic it takes a long time to educate them. Whereas now it’s simple. I just say, ‘You’ve got to see a diabetes educator.’ Saves me an hour”. (GP5M). A key factor driving this difference is the GP payment structure, which is based on 15 minute intervals.
Sharing the load	Consequently, GPs direct more time-consuming tasks to AHPs, such as complex patient management and administrative duties, which can lessen the workload burden for GPs. “They do so much of

the paperwork for us" (GP3F); "[It] takes a lot of stress off me having a diabetes educator... I think it really improves our professionalism and you go home and you're not nearly as exhausted really because someone's sharing the load" (GP5M); "It's less stressful for us so it's more satisfying 'cause we have a sense that we're doing a better job even if we're not actually doing quite a bit of it. We've got all these support people but yeah you enjoy your job more, you can keep to time better, you feel more satisfied" (GP10F). Internal AHPs generally spoke favourably about this arrangement, and it appeared that they had integrated GP support into their role. "That takes away the burden, the time burden on the GPs" (IntAHP4F).

Shifting care

The possibility that 'shared care' can become a matter of 'shifting care' was raised by some of the external AHPs. They recognised that this can place a substantial load on some AHPs, risks them becoming overburdened, and may compromise patient care. "They [GPs] basically hand the patient over to look after foot care and let us know if there's a problem... I don't think they even take shoes off anymore...And then almost absolve themselves of any responsibility for that once they hand someone over to us which can be difficult if you have got two visits" (ExAHP1F).

APPENDIX 8 VIEWS ON CURRENT ARRANGEMENTS AND PROCESSES FOR MULTIDISCIPLINARY CARE

Multidisciplinary Care

Locally interpreted	Participants described a familiarity with multidisciplinary care, and a preference for care that involved multiple disciplines. However, multidisciplinary care did not necessarily always mean a coordinated team approach, or GP involvement in care. "We all do a lot of multidisciplinary work but not necessarily interconnected" (ExAHP8F). GPs spoke about two different concepts of multidisciplinary care: 'sharing' care and 'transferring' care. "You can transfer some of the care on and get some practical advice and have...more time. So it's great" (GP6F); "I don't feel like I transfer them so much as I share care because I do keep following them up" (GP3F). In relation to Medicare TCA, comparisons were made with other programs that promote multidisciplinary care. "I get the feeling it's [Medicare TCA's] a token gesture...when you compare...with mechanisms in DVA" (ExAHP5F).
Parallel care	When describing practices within Medicare TCA, participants often described practices reflective of 'parallel', rather than coordinated 'team' care. "The [Medicare TCA] stuff was set up with the idea we do these management plans and you get everybody in here and have a case conference and everybody does it...The person who does the eyes, they're not interested in the feet and the person who does the feet is not interested in the eyes. And they consider it a waste of time to be involved" (GP2F); "It [Medicare TCA care plan] says if you want to be involved yes, no...any changes to it...but often it's just literally a fax saying you accept they're involved in it" (ExAHP2F).
Inadequate and complex	Participants generally perceived that funding for the program is inadequate. This not only impedes patient access, but also deters involvement of some AHPs. "You need a minimum of three visits which are never given. So that's why a lot of OTs just won't touch it" (ExAHP7F); "Especially if like you get people that are on a pension and can't afford or don't have health insurance ... just continuing that multi-disciplinary approach can be quite hard long term" (ExAHP2F). Additionally, the complexity of the Medicare TCA processes, for both practitioners and patients, was highlighted. "If we can't understand it and get a handle on it as Allied Health as far as where things are at, how are patients supposed to and I think it's very difficult that they don't know how many they can claim" (IntAHP4F).
GP involvement	The experience of multidisciplinary care with GP involvement differs significantly, depending on organisational arrangements, and whether AHP participants were from the external or integrated work environment. External AHPs identified challenges of working with GPs in care, which raises questions about the efficiency of having a GP involved in multidisciplinary arrangements. "If you have a GP as part of that care, sometimes I don't think it's done very effectively. I

	think it's because of that frustration with – they're not there that day, you're not there the next day so stuff gets left. Where does it go? If you're – you're worried about it, what happens to that issue?" (ExAHP8F). Conversely, internal AHPs emphasised the accessibility of GPs within the CHHC model, which supports more efficient multidisciplinary communication. "This is a dream ... having the access to the - instant access as opposed to waiting for a phone call to come back or a letter or whatever" (IntAHP5F).
Mixed views on patient agency	Participants also discussed the role of the patient in multidisciplinary care, highlighting that, in some cases, patients take an active role in initiating, organising and accessing care. "I am finding quite a few of my – I suppose particularly young people have their psychologist in mind when they come to see me" (GP4F). While this was identified as a concern by GPs, both internal and external AHPs identified the benefits of patients having more choice and discretion in their care, and some AHPs spoke of actively encouraging this agency. "We empower patients to be able to make more decisions...and take them out of the hierarchical medical model type thing. So they then can say to the GP, 'I want to do this. I want to do that'" (ExAHP5F).
<i>The CHHC Model</i>	
Benefits of co-location	GPs and internal AHPs expressed a strong preference for the CHHC model. Key benefits include improved coordination of care due to ease of accessibility of practitioners, less duplication of service, and greater efficiency in patient care. "The ability to walk down the corridor and catch professionals working next door or just knock on the door. It is unique to work at Camp Hill and it has enormous benefits" (IntAHP2M); "I think it's not only being physically co-located, it is being I suppose integrated into the medical team" (IntAHP1M). External AHPs also endorsed the model. "You can compare clinics to clinics. If you know it's Camp Hill, you know it's all sorted. If you know it's somewhere else, you go oh dear" (ExAHP3F).
Professional preferences	However, while endorsing the benefits of the model for their work, the external AHP participants did not consider it a desirable model to work in personally due to the impact on professional autonomy and self-governance. "To be honest, we do it the other way. We invite doctors to our rooms. So we actually have sessional suites and we have a number of specialists who come to our rooms" (ExAHP5F).
Sustainability & transferability	Sustainability and transferability of the CHHC model were identified as challenging issues, due to reliance on government funding. "It only takes them to do what they've done with the mental health funds and just suddenly go, well we're just going to halve the rebate you get for every health assessment in EPC and that would be it" (GP1M). Furthermore, the success of the CHHC model has taken time to develop and requires a consistent 'champion' to drive development. This raises questions about the ease of transferability of this model to other contexts. "I think that's what is going to be different from practices like this to say GP super clinics is that they try to fabricate it from nothing where this is taken 10 or 15 years to develop from the ground up" (IntAHP1M).

Multidisciplinary Practices

Quality of communication	In relation to multidisciplinary care, participants agreed that relevant and timely communication from practitioners is beneficial and necessary, as it supports coordination of care and gives a more comprehensive picture of the patient situation. Specifically, this related to the quality of referrals, practitioner feedback, and comprehensiveness of file notes. "I can go ahead and I can ask [the patient] everything else about other problems health wise and I can ask medication, but when it's put together by a professional person it's just different to what the patient is going to end up telling you at the end of the day... so therefore I can tailor what I am doing" (IntAHP3F).
Discretionary communication practices	There was some resistance to communication practices that were perceived unnecessary and onerous, or without financial incentives. Though all participants articulated this issue, it was emphasised more by GPs. This concern was often discussed in relation to Medicare TCA processes, and consequently, communication practices surrounding this initiative and other multidisciplinary care, seems to occur on a discretionary rather than routine basis. "Will often write at the end of a treatment course but they don't keep sending us things saying every time – you don't want them to all the time" (GP2F); "Usually it's clear cut. Podiatry for a diabetic or someone with severe osteoarthritis, they don't really need to tell us what they did" (GP6F); "They get a hand written letter each time they're going back to the GP, that's as good as it gets. There's no money in communication... I mean with these complicated issues, it could take you and your secretary half an hour in which you could see another client. And it's a private practice. You don't do it" (EXAHP5F).
Uncertainty about effectiveness	While AHPs agreed that discretion with communication practices is needed, communication from GPs was perceived, at times, to be inadequate for practice needs, and this created frustration concerning follow-up and effectiveness of care for both internal and external AHPs. "Have we been successful in what we've tried to achieve? Is what we're doing, working...I only see it through the patient ... my main point of contact, the feedback is through the patient" (ExAHP6M). "You actually wonder whether, and if no notation is made by the GP in the file, you are not even sure whether it was even discussed... then you wonder what other, were there other issues within that plan that weren't addressed" (IntAHP4F).
Pivotal community nurse role	Multidisciplinary communication processes are enhanced when a community nurse or diabetes educator is involved. "Oh, you've got to have a nurse doing it because they know what they're doing ... The system is going to be done properly; it's more likely that plans will be done...because some GP's if they have to do it themselves then they won't do it. So I'd say that's – and that's a starting point" (ExAHP6M). In the CHHC model, they have assumed a key role in

the coordination and management of Medicare TCA, including decisions on AHP providers and referral pathways, which were recognised as the preferred arrangement by all participants. “In reality probably most of those decisions are made by the community nurse or the diabetes educator” (GP1M).

Professional culture in transition

Closer inter-professional relationships	The CHHC model, with the shared working environment, has facilitated greater interaction between GPs and AHPs, enhancing interdisciplinary awareness and relationships. “I have more appreciation for what they do – various allied health – particularly the ones that I have close contact with in our practice because it’s just that immediacy and that close contact you realise how much they know, how much they do, how much effort they put in to patient care and so it fosters closer relationships – inter-professional relationships” (GP10F).
Benefits of shared care	The benefits of increased relations between GPs and AHPs include: greater AHP involvement in practice, which encourages a new approach to patient care; shared knowledge and skill development; and increased feedback opportunities. “Externally you would rarely hear how your recommendations have gone...And so that feedback verbal, written or otherwise is invaluable because it’s the real life stuff that you gain” (IntAHP1M).
Enhanced GP relationships	GPs also described the positive impact on their relationships with each other. “I think it actually lubricates general practitioner ability to converse and liaise. I think allied health professionals actually help us work better together as a team...We actually engage in dialogue practitioner to practitioner better. And we learn more about the way each of us individually practices and why we do that. And we influence each other” (GP5M). There was limited discussion on these aspects by external AHPs. One explanation for this is that they are outside the effects of this transition. They did identify, however, that multidisciplinary models are facilitating a greater awareness amongst GPs of the AHP role, and consequently, this is encouraging increased use of their services.

APPENDIX 9 POLICY RECOMMENDATIONS IN THE AREAS OF FALLS PREVENTION, PAIN MANAGEMENT AND URINARY INCONTINENCE THAT REQUIRE INTENSIVE MULTIDISCIPLINARY APPROACHES

During the course of this project three conditions arose that were more prevalent than expected, and for which comprehensive case management and multidisciplinary care are required.

(The key recommendations from this study are within the main report, the recommendations below are in addition and are specific to three conditions)

1. Falls prevention

Falls prevention appears to be a major need to be met in this population. Falls have well-documented and obvious health consequences. They are a major cause of hospitalization and a trigger for admission into residential care. The state health department in Queensland has an active primary prevention falls strategy, which includes liaison with primary care.(33) Frequently patients are identified to go into a falls prevention program after a fall has taken place. The Multidisciplinary care and case management approach is ideally placed to identify people at risk of falls and put in place multidisciplinary approaches to care to prevent falls.

We recommend that falls prevention requires a national approach, and that primary care is the vehicle through which major primary prevention can be enacted. We recommend that Medicare Locals be required to develop a local falls prevention strategy, and report against local targets.

2. Pain management in older people

Pain is a very common problem and frequently aligned to arthritis and mobility issues. Chronic pain is routinely under-diagnosed and under treated. Chronic pain was the subject of a national report and recommendations in 2011. The role of allied health and the coordinated role of GP and Allied Health Professionals in the prevention, treatment and rehabilitation of pain in this population needs to be improved to reduce the current levels.

We recommend that a national program of work aimed at primary care-based health care professionals to enact the National Pain report in primary care be implemented. This will include education on the role of AHPs in the management of chronic pain management.

3. Urinary incontinence

This project highlighted the poor state of health of people with urinary incontinence. They are frail, have multiple co-morbidities, fell more frequently and are more depressed and more anxious than the other groups studied. Urinary incontinence is both a consequence of other conditions (eg impaired mobility) and a precipitant of morbidity (eg falls trying to hurry to the toilet) We conclude that urinary incontinence should be considered a symptom of frailty in older persons, and a flag that other co-morbidities should be considered. It is far more serious than an embarrassing problem that should be considered as a secondary issue.

We recommend that a revision of the medical and health approach to urinary incontinence should be undertaken. This should be the basis of a public health education campaign aimed at health professionals, highlighting the serious risk of morbidity associated with urinary incontinence, and an evidence based approach to the assessment and management of urinary incontinence.