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**Author**

Cant, Robyn, Foster, Michele

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# Investing in big ideas: utilisation and cost of Medicare Allied Health services in Australia under the Chronic Disease Management initiative in primary care

Robyn P. Cant<sup>1,3</sup> PhD, MHLthSc, Grad Dip HEd, Research Fellow

Michele M. Foster<sup>2</sup> PhD, Senior Lecturer

<sup>1</sup>Monash University, School of Nursing and Midwifery, Churchill, VIC 3842, Australia.

<sup>2</sup>Social Policy Unit, School of Social Work and Human Services, The University of Queensland, St Lucia, QLD 4072, Australia. Email: fosterm@uq.edu.au

<sup>3</sup>Corresponding author. Email: robyn.cant@monash.edu

## Abstract

**Objective.** To critically examine utilisation of the 13 allied health services provided through Medicare Chronic Disease Management program and related general practitioner (GP) care planning initiatives.

**Methods.** Statistics generated from national billing data from July 2005 to June 2009 were extracted from Medicare data and compared by profession, State or Territory and population.

**Results.** Most services grew over 4 years although nationally consistent service levels were not found for any allied health provider profession. On referral from GPs, podiatry, physiotherapy and dietetics provided most services (82%) in 2008–09. Professions had unique patterns of referral instanced by age range and sex of clientele. Wide variation was apparent in per capita utilisation of allied health services by State or Territory; some with far less than average national use and others with high use. Annual number of GP Management Plans or Team Care Arrangements was low (mean:  $\leq 22$  per GP in 2008–09), indicating low use of care planning.

**Conclusion.** Inequality of accessibility for patients was apparent. Five years into the program, a review of Medicare Allied Health CDM policy is warranted.

**Implications.** Research and evaluation is needed to identify whether the program is meeting the needs of GPs, allied health providers and chronic disease patients.

**What is known about the topic?** Since 2004, Medicare Chronic Disease Management program has offered Australian patients with chronic or complex disease access to 13 allied health professions via private clinics on referral from their general practitioner – with costs subsidised by Medicare. Little is known about the demographics of referred patients or which allied health services are utilised.

**What does this paper add?** We take a multidisciplinary perspective to describe program use and find wide variation by profession nationally. Per capita State and Territory data indicate inequality of accessibility. Podiatry, physiotherapy and dietetics provided 82% of all services in 2008–09. Referrals initiated by GPs via patient care plans are increasing, but at present referrals per each GP are low.

**What are the implications for practitioners?** More needs to be known about the dynamics that affect referral, the local accessibility of allied health providers and issues that affect uptake by patients.

**Additional keywords:** access, dietetics, physiotherapy, podiatry, self-management.

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## Introduction

Chronic medical conditions are responsible for over 80% of the overall burden of disease and injury in Australia.<sup>1</sup> One or more chronic disease afflicts three of every four Australians at some stage in their life and this adds to already high health care costs,<sup>1,2</sup> thus raising a dilemma for the public health policy arena as to: how

to reverse this trend. Over the last 2 decades, through a range of policy initiatives, the Australian Government has sought to improve prevention and management of chronic diseases by enhancing the capacity of the primary care sector to provide continuity of care with multidisciplinary input. Notably, new initiatives were funded under national health insurance –

Medicare. New items were added to the Medical Benefits Schedule (MBS) to enable general medical practitioners (GPs) to work more collaboratively with allied health professionals and nurses.

In 1999, the Enhanced Primary Care (EPC) program comprised a range of initiatives designed to improve the quality of care for older Australians and management of chronic disease within primary care general practice.<sup>3</sup> This included financial incentives for GPs to conduct routine and follow-up health assessments with people over 65 years, or in the case of Indigenous Australians, 45 years, to develop care plans and engage in case conferences.<sup>4</sup> In 2004, allied health services were added, allowing GPs to refer eligible patients to various allied health professional services in private clinics, with costs subsidised by Medicare. This supplemented the publicly funded allied health services available for patients through hospital and community-based health and medical services such as in community clinics. Known as the Medicare-Plus Chronic Disease Management (CDM) items, this initiative aimed to enhance management of chronic disease through better access to multidisciplinary care.<sup>5</sup>

To be eligible to access Medicare allied health services, a patient must be diagnosed with a chronic or complex medical condition present for at least 6 months and have a GP Management Plan or a Team Care Arrangement (TCA) in place.<sup>4</sup> However, GPs retain discretion to determine the need for multidisciplinary team care and to refer to allied health services. CDM items allow access to low-cost allied health services through refund of 85% of a Commonwealth Government-determined scheduled fee scale, or if billed directly by the Medicare provider, a fee-free service.<sup>6</sup> The scheduled fee for both initial and follow-up consultations was AU\$58.85 at November 2009, and the rebated remuneration for providers per visit AU\$50.05. Up to five allied health consultations are permitted per patient per year. Accredited allied health providers include: aboriginal health worker, audiology, chiropractic, diabetes educator, dietetics, exercise physiology, mental health worker (including social worker or mental health nurse), occupational therapy, osteopathy, physiotherapy, podiatry, psychology and speech pathology.<sup>6</sup> A summary of the program guidelines is given in Box 1.

Although some evaluation has been undertaken during the early period of the Medicare EPC program of GPs' use, there is little published evaluation of the Medicare allied health services, particularly from a multidisciplinary perspective. Uptake of CDM

items by allied health was initially slow<sup>7</sup> and has since escalated.<sup>8</sup> Podiatry, the leading service by number of consultations over the years 2004–08, recorded 1 338 044 consultations at a cost of AU\$62.9 million over the period.<sup>9</sup> Expenditure since program inception to June 2009 for fee rebates for all allied health provider professions was AU\$233 million.<sup>10</sup> Hence, the idea of better access to allied health services and multidisciplinary team care is supported both in practice and through increasing public expenditure.

In order to gauge the performance of policy aimed at multidisciplinary care, closer scrutiny of what allied health services are being utilised and by what patients is necessary. Equally of interest is the extent to which team care is occurring in practice. Research examining allied health perspectives of EPC and CDM items indicates team care is more a paper exercise than a reality, with allied health providers reporting poor liaison and linkages with GPs.<sup>11</sup> The key mechanisms for facilitating team care are the Multidisciplinary Care Plan and the Case Conference items.<sup>6</sup> There is evidence to suggest that in some cases GPs are less inclined to participate in case conferences compared to health assessments and GP Management Plans.<sup>3</sup> There is also indication of low involvement of allied health in case conferences.<sup>12</sup>

The purpose of this paper is to examine: (i) Medicare statistics for allied health services over 4 years (2006–09) with a view to describing the frequency and type of allied health services utilised under the CDM items and utilisation by State or Territory and by patient demography; and (ii) the Medicare statistics for multidisciplinary care plans and case conferences to describe utilisation by GPs. Medicare Australia publishes annual statistics for EPC and CDM items profession by profession, although a direct comparison of all provider professions is not readily available. In examining these data, we consider the dominant patterns of utilisation and what this indicates in terms of the administration and implementation of the Medicare allied health initiatives and multidisciplinary team care. Moreover, we consider the questions these data raise for equity of access and the implications for future policy reform aimed at enhancing the prevention and management of chronic disease within the primary care context.

## Methods

### Data extraction

Statistics compiled from national billing data were sourced from the website of Medicare Australia (see <http://www.medicareaustralia.gov.au>).<sup>10</sup> The selected period was 2005–09 (1 July 2005 to 30 June 2009); disregarding the first year of the program because this was a period of program establishment. For each of the service provider categories listed in Table 1, reports by MBS item number were extracted for the number of individual services by State or Territory in the financial years 2005–06 to 2008–09. Reported data refer to both States and Territories throughout the paper. Cost data were also obtained. For each provider profession, cross-tabulated data for the same period by State and by age group and by sex of patients were downloaded. To assess the per capita utilisation by State in the most recent year of 2008–09, data giving the number of consultations by number of individuals enrolled in Medicare in the same financial year were extracted. The number enrolled is sourced by Medicare from the Australian Bureau of Statistics. These data were supplemented by other

### Box 1. Summary of Medicare CDM program guidelines

#### Medicare Chronic Disease Management Program

Australian Government:

- aimed to increase public access to multidisciplinary health services with referrals coordinated by a patient's general medical practitioner (GP)

Patient eligibility:

- has a chronic or complex medical condition present for more than 6 months

Treatment process:

- agree with GP about details of an individual GP Management Plan or Team Care Arrangement
- be registered with Medicare, with appropriate forms invoiced to Medicare by GP
- receive up to five allied health consultations in total in 1 year
- fees subsidised by rebate of 85% of government scheduled fee – or if direct billed by the provider, a fee-free service

**Table 1. Annual number of allied health Medicare CDM services (consultations) provided for individuals from July 2008 to June 2009 by State or Territory**

Source: Medicare Australia statistics

MBS item	Provider category	States and Territories								Total
		NSW	VIC	QLD	SA	WA	TAS	ACT	NT	
10950	Aboriginal health worker	77	59	69	1	0	0	0	22	228
10951	Diabetes educator	7776	17 401	6973	2733	1731	1162	74	726	38 576
10952	Audiology	211	180	60	79	209	6	3	0	748
10953	Exercise physiology	21 376	6995	12 505	5528	7353	1338	271	169	55 535
10954	Dietetics	67 714	36 863	35 030	10 007	12 217	1181	623	334	163 969
10956	Mental health worker	1059	742	298	169	39	13	0	2	2322
10958	Occupational therapy	8780	6015	2900	874	1568	142	123	53	20 455
10960	Physiotherapy	263 649	175 411	103 720	33 742	36 679	5616	2317	702	621 836
10962	Podiatry	268 604	224 119	107 629	79 258	57 889	17 107	1642	1566	757 814
10964	Chiropractic	44 016	28 046	9530	4246	2417	973	531	29	89 788
10966	Osteopathy	2705	1858	1413	178	267	88	68	14	6591
10968	Psychology	2702	1858	1413	178	267	88	68	14	6591
10970	Speech pathology	37 627	20 132	10 747	2526	5208	647	83	194	77 164
	Total	<b>739 835</b>	<b>541 197</b>	<b>295 157</b>	<b>139 435</b>	<b>125 921</b>	<b>29 154</b>	<b>5944</b>	<b>3834</b>	<b>1 880 477</b>

available statistics on Medicare items such as GP Management Plans, as described in the results. No individualised patient data were available from Medicare: for example the number of referred patients as this was not published. Diagnosis data were not collected by Medicare.

## Results

There were 1.9 million individual allied health services (consultations) provided nationwide under the CDM items in the 2008–09 financial year, at a cost of almost AU\$92 million to Medicare. There were also almost 18 000 Group Medicare services for small group education of patients with type 2 diabetes; the current results, however, focus only on service provision for individual patients. The data for CDM individual allied health occasions of service processed from 1 July 2008 to 30 June 2009 by State are shown in Table 1. The actual number of patients referred by GPs is unknown because data are collected by number of services for which billing is processed. As each patient may access up to five consultations from various allied health professionals in any 1 year, the number of patients referred is at least one-fifth of the overall annual total: 376 000.

The seven most utilised Medicare allied health services instanced by the MBS items billed in 2008–09 financial year are the following (with the number of services in thousands given in parentheses): podiatry (757), physiotherapy (621), dietetics (163), chiropractic (89) speech pathology (77) exercise physiology (55) and diabetes education (38). The six least utilised in decreasing order were OT (20), psychology (6), osteopathy (6), mental health worker (2), audiology (0.7) and aboriginal health worker (0.2). As there is a single service item under MBS for each provider profession and the billing costs are identical for each, billed service volumes can be directly compared.

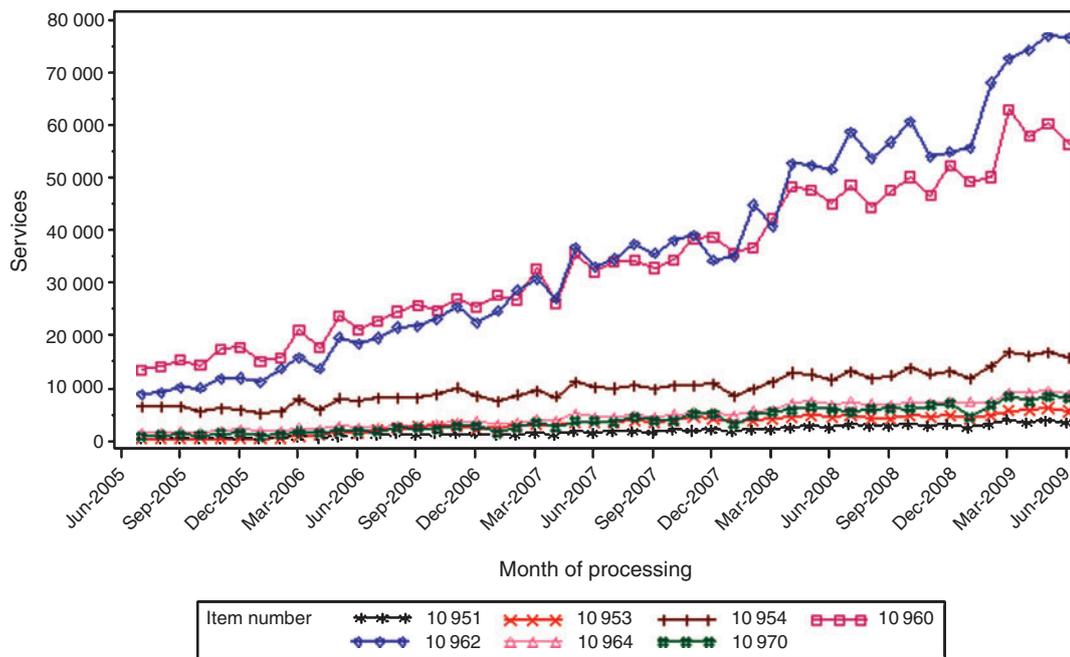
The number of individual services provided has grown exponentially over the period June 2005 to July 2009. Data reported by quarterly performance for each provider profession are shown in Figs 1 and 2. It should be noted that the scale in Fig. 2 is one-tenth of that in Fig. 1. Podiatry, physiotherapy and dietetics remain the

highest service providers for each year. However, an increase is evident in service provision for all provider categories over the period, except for OT and psychology. Psychology decreased from December 2006 onwards following the introduction of an alternative program: Better Access to Psychiatrists, Psychologists and General Practitioners through the MBS (Better Access) Initiative. Podiatry services increased more than five times over the period and physiotherapy services more than 3-fold. Thus, by 2009, podiatrists and physiotherapists were providing 73% of all Medicare CDM services to individuals and the top three: podiatry, physiotherapy, dietetics produced 82% of all billing.

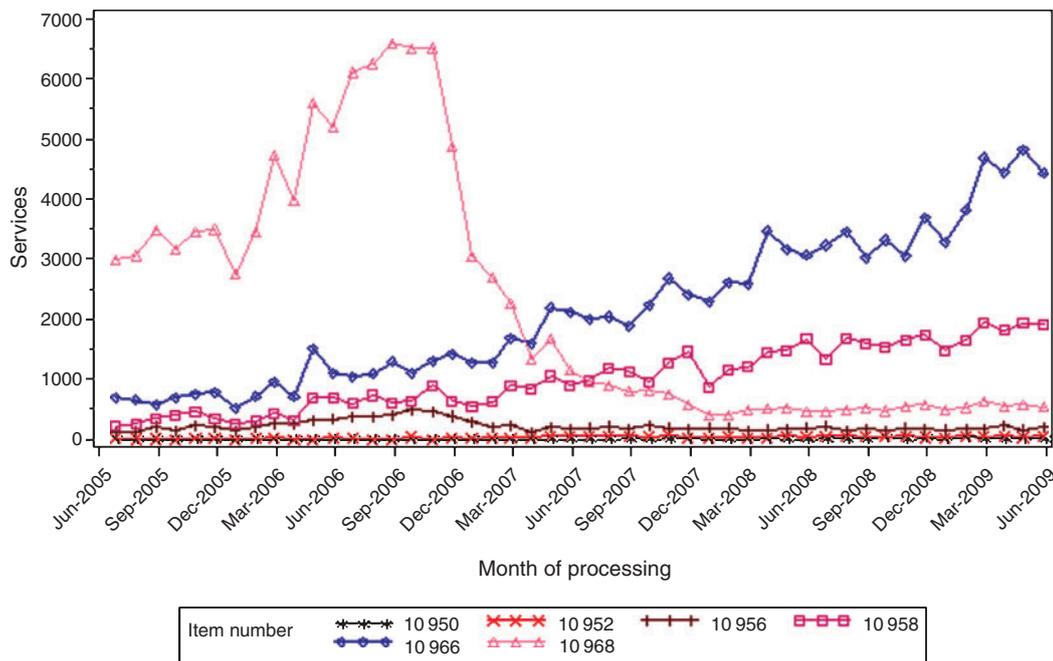
Differences in service utilisation by States were apparent, including when data were matched with State population data by Medicare and the statistics presented as frequency per 100 000 of the population (Table 2). For this exercise, national average data were then compared with State data and variation of an arbitrary 20% above or below the national average was noted. In some States there was high use of some services per capita and alternatively, low or very low utilisation per capita in others. Physiotherapy use was high in New South Wales (NSW), low in West Australia (WA) and Tasmania (TAS) and very low in Northern Territory (NT) and Australian Capital Territory (ACT). Physiotherapy utilisation in the territories was 11 to 25% of the national average. Further, diabetes education services that were billed showed that service provision was high in NT and Victoria (VIC), low in NSW, WA and ACT and less than half the national average per capita in WA. The territories NT and ACT together with Queensland (QLD) had less utilisation per capita for a greater number of allied health professions than other States. As would be expected, States with larger populations (NSW, VIC) had overall utilisation close to the national average.

### *Characteristics of chronic disease patients*

Age range and sex data for billed patients were provided by Medicare. The majority of patients referred during 2008–09 were female (62%) and the age range was generally broad; from birth to >85 years. Two of every three referred patients were female for



**Fig. 1.** Number of consultations per quarter for the seven MOST utilised allied health CDM MBS items from June 2005 to July 2009. Source: Medicare statistics.



**Fig. 2.** Number of consultations per quarter for the six LEAST utilised allied health CDM MBS items from June 2005 to July 2009 (note that this scale is one-tenth of that in Fig. 2). Source: Medicare statistics.

several professions (aboriginal health worker; dietetics, exercise physiology, mental health worker, physiotherapy, podiatry, chiropractic, osteopathy, psychology). In contrast, diabetes education, audiology, occupational therapy (OT) and speech pathology (SP) treated more males than females and for the latter three,

children made up the majority of clients: 62% under age 14 for audiology, 63% for OT and 94% for SP. In other services and for both sexes, adults of older age often predominated. For each of physiotherapy, chiropractic and osteopathy, 75% of referred patients were age >45 years. For psychology, three of every four

**Table 2. National utilisation: Allied health Medicare CDM services processed from July 2008 to June 2009 by State or Territory and per capita of Medicare enrolments, showing low or high utilisation**

Note: provider professions in States or Territories with less than 80% utilisation compared with national total (average) are underlined; figures for States and Territories with more than 120% utilisation are in bold format. No aboriginal health worker comparison was made between States and Territories. Figures are per 100 000 capita of Medicare enrolment during the same period, by month of service billing, by address of patient. Source: Medicare Australia statistics

Provider category	States and territories								National total (per 100 000 population)
	NSW (per 100 000 population)	VIC (per 100 000 population)	QLD (per 100 000 population)	SA (per 100 000 population)	WA (per 100 000 population)	TAS (per 100 000 population)	ACT (per 100 000 population)	NT (per 100 000 population)	
Aboriginal health worker	1	1	2	0	0	0	0	10	1
Diabetes educator	<u>110</u>	<b>326</b>	162	171	<u>80</u>	230	<u>21</u>	<b>339</b>	179
Audiology	3	3	<u>1</u>	5	<b>10</b>	<u>1</u>	<u>1</u>	<u>0</u>	4
Exercise physiology	302	<u>131</u>	290	<b>346</b>	338	265	<u>77</u>	<u>79</u>	258
Dietetics	<b>958</b>	691	814	626	<u>561</u>	<u>234</u>	<u>177</u>	<u>156</u>	761
Mental health worker	<b>15</b>	<b>14</b>	<u>7</u>	11	<u>2</u>	<u>3</u>	<u>0</u>	<u>1</u>	11
Occupational therapy	124	113	<u>67</u>	<u>55</u>	72	<u>28</u>	<u>35</u>	<u>25</u>	95
Physiotherapy	<b>3729</b>	3288	2409	2112	<u>1685</u>	<u>1111</u>	<u>657</u>	<u>328</u>	2884
Podiatry	3799	4200	<u>2500</u>	<b>4960</b>	2660	3384	<u>466</u>	<u>732</u>	3515
Chiropractic	<b>622</b>	<b>526</b>	<u>221</u>	<u>266</u>	<u>111</u>	<u>192</u>	<u>151</u>	<u>14</u>	416
Osteopathy	230	<b>438</b>	<u>99</u>	<u>6</u>	<u>16</u>	174	<u>59</u>	<u>11</u>	211
Psychology	38	35	33	<u>11</u>	<u>12</u>	<u>17</u>	<u>19</u>	<u>7</u>	31
Speech pathology	<b>532</b>	377	<u>250</u>	<u>158</u>	239	<u>128</u>	<u>24</u>	<u>91</u>	358

patients were aged less than 54 years, whereas podiatry treated older patients with most (75%) aged >65 years. These statistics show a greater proportion of referrals involved female patients and also indicate unique patterns of referral according to allied health speciality.

#### *Uptake of GP management plans and team care arrangements*

Medicare statistics indicate that overall uptake by GPs of GPMP and TCA items, required precursors to allied health referrals, is low. The national number of GPMPs prepared in the year to 30 June 2009 was 1.08 million plans, at a cost of AU\$130 million. The average number of GPMPs prepared by each GP nationally was 22, with 25% of GPs preparing six or less and 25% of GPs preparing more than 56 plans over the 12 months. Approximately half were reviewed.

The number of TCAs billed nationally 2008–09 was 764 000, at a cost of AU\$78 million. The mean number of TCAs billed by each GP nationally for the same period was 17, with 25% of GPs preparing five plans or less and 25% preparing more than 43 plans. The number of reviews for both services was lower than for the initial plans. Average utilisation of GPMPs by GPs amounted to preparation of one plan approximately every 2 weeks, and for TCAs, the frequency was less. It should be noted that a GPMP is not always used to generate an allied health referral as it can simply be used for care planning. However, these results raise questions about the extent of uptake of these options for initiating multidisciplinary care for patients.

#### **Discussion**

In two of every five GP encounters at least one chronic problem is managed, with hypertension, non-gestational diabetes, lipid disorders and osteoarthritis among the most frequently managed

conditions.<sup>13</sup> For older patients aged 75–84 years, chronic problems are managed in almost nine of every ten GP consultations.<sup>13</sup> This illustrates the depth of chronic health problems that the changes to Medicare policy aim to address.

#### *Utilisation of allied health providers by profession and by State or Territory*

The podiatry and physiotherapy professions conducted by far the highest number of CDM consultations and thus, contributed most to government expenditure; 73% of all CDM services billed in 2008–09. Podiatry treated mostly older and female patients aged over 65 years which is consistent with the likelihood that elderly patients may require regular foot care from podiatrists. Research indicates that users of podiatry are likely to be older, be female and have chronic conditions such as diabetes, cardiovascular disease, obesity, osteoporosis or osteoarthritis.<sup>14</sup> Older patients experiencing decreased mobility, bone and joint deterioration and osteoarthritis can benefit from physiotherapy.<sup>15</sup> Without data on actual CDM patient referral reasons, however, these links are tenuous. A 2007 study of dietitian CDM providers found that type 2 diabetes mellitus, obesity and cardiac conditions were regarded as the most commonly referred diagnosis types for Medicare-referred dietetics patients.<sup>16</sup> Furthermore, the number of CDM services provided to patients per each Medicare provider by dietetics and by diabetes education in 2008–09 were among the highest of all providers,<sup>9</sup> suggesting that patients with type 2 diabetes were receiving these education services. Indications are that patients who require the Medicare services for chronic conditions may be receiving them.

Nationally consistent service levels were not found for any allied health profession. When per capita utilisation was examined, large differences in level of service delivery were noted by State or Territory. As affirmed in the results, States and Territories with the highest utilisation per capita were often those with

larger populations and those States or Territories with smaller populations (WA, SA, NT, ACT, TAS) most often had fewer services delivered: frequently more than a 20% reduction in service delivery compared with the national per capita figure. Per capita allied health services billed for physiotherapy in NSW is 10 times the ratio found in NT. A low rate of service in NT is also apparent in numerous other services such as dietetics, chiropractic, podiatry, mental health worker, occupational therapy and others.

Several factors may influence Medicare CDM uptake and explain the variations. For example, States and Territories place greater or lesser emphasis on ambulatory services which may either enhance or limit patient access to public allied health services in hospital outpatient clinics or community health services. In WA, where diabetes education utilisation was low, focussed public services may provide the majority of diabetes care.<sup>17</sup>

Referral patterns may also be important. Although service data are available by region according to Division of GP, any comparison does not identify whether referral patterns are meeting patient referral needs. The role of Divisions of GP in education of GPs by region to take up the program protocols and the effect of number of available allied health providers situated in their locality in private practice are unclear. As over 75% of podiatrists in each State or Territory work in private practice, podiatry services may be more accessible than other professions.<sup>9</sup>

It is also likely that other government health service initiatives affect uptake of CDM allied health services and generate variations in practices, particularly in rural compared to urban areas. The More Allied Health Services (MAHS) program was introduced to increase rural allied health services ([www.health.gov.au](http://www.health.gov.au), accessed 5 May 2011) and this increased allied health professional services in some regions. In the case of Medicare Plus CDM, referrals often go to allied health professionals based in clinics many kilometres (perhaps, hundreds) away from the patient, creating significant barriers to access for provider and client.<sup>18</sup> Furthermore, distance influences the employment preference of professionals because travelling long distances for sessional work is likely to negatively affect employment desirability.<sup>19</sup>

Alternatively, differences in uptake of CDM by region also suggest the possibility of several dynamics, for example, public health services are meeting the needs of the chronic care patients, there are low rates of uptake and referral by GPs or a lack of private practitioners for GPs to refer to. However, data from the Australian Institute of Health and Welfare show significant health inequities for Australians living in rural and remote areas. These populations generally experience overall poorer health than urban populations, including higher levels of chronic disease and health risk factors and high rates of hospitalisation.<sup>20</sup> For community members in a low socio-economic region of NSW, providers' skills and traits together with convenient and accessible clinics and bulk-billing were key considerations in their choice of a service provider.<sup>21</sup> For these populations, equity of access to CDM allied health services becomes an issue.

#### *Multidisciplinary team care*

The limited use of multidisciplinary care plans and low case conference uptake by GPs suggests that the investment in allied

health services is not yet being translated into effective team care that incorporates shared care and decision-making. Rather, it is more likely providing opportunity for additional disciplinary input into the management of patients with chronic disease. GPs' decisions to implement multidisciplinary care may be influenced by familiarity with team planning and the setting of patient care goals (required under the GPMP and TCA) and the forecasting of positive patient outcomes.<sup>22</sup> Care plan utilisation nationally was only 2.4 plans per GP in 2004 at commencement of the allied health program, increasing to an average 17 per GP in 2008–09. GP training has been shown to be effective in increasing utilisation.<sup>23</sup> It may be that multidisciplinary care planning is better coordinated in comprehensive primary health care centres. Such clinics (Super Clinics) are being established nationally and will comprise multidisciplinary staffing profiles.<sup>24</sup>

#### **Conclusion**

Medicare CDM statistics for allied health services show that podiatry, physiotherapy and dietetics provided the majority of services nationally from July 2006 to June 2009 and 82% of all services in 2008–09. There was wide variation in service utilisation by State and Territory and also unique patterns of referral and service according to allied health speciality, as shown by age and sex mix. Although GP utilisation of GPMP and TCA items appears to be low, this number is increasing. A review of Medicare CDM policy is warranted to understand these differences and to account for public expenditure. Research is also required to identify the extent the policy is meeting the needs of GPs, allied health providers and their chronic disease patients.

#### **Competing interests**

The authors declare that no conflicts of interest exist.

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