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System reform and development for chronic disease management

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Contents

EXECUTIVE SUMMARY	5
Best practice in chronic disease management.....	5
Current chronic disease management programs	5
System and funding reform options.....	6
1. BEST PRACTICE FOR CHRONIC DISEASE MANAGEMENT IN PRIMARY HEALTH CARE 8	
QUALITY OF CARE FOR CHRONIC DISEASES	10
BEST PRACTICE MODELS FOR CHRONIC DISEASE MANAGEMENT.....	12
PRACTICAL APPLICATION OF THE CHRONIC CARE MODEL.....	13
Team-based multidisciplinary care.....	14
Triage.....	15
Assessment	17
Payment and funding models for chronic disease.....	17
Information technology and management to support the CCM.....	20
Incentives for patient monitoring and continuity of care.....	21
EFFECTIVENESS OF PRIMARY CARE IN REDUCING ACUTE CARE DEMAND.....	22
SUMMARY: PRIMARY HEALTH CARE AND CHRONIC DISEASE MANAGEMENT	23
2. CURRENT CHRONIC DISEASE MANAGEMENT PROGRAMS	24
MEDICARE	24
Practice Incentive Program.....	24
Chronic Disease Management Program.....	25
GP Mental Health Care Program	27
Adult health checks and assessments.....	29
STATE-BASED PROGRAMS AND THE AUSTRALIAN BETTER HEALTH INITIATIVE.....	29
COMMUNITY CARE SERVICES	30
INTERACTION BETWEEN CURRENT PROGRAMS	31
CDM items and SIPs	31
GP MHC items and CDM/SIP items	32
Community care services and Medicare chronic disease programs.....	32
State-funded programs, Medicare and community care services.....	33
CCM, QUALITY AND CURRENT MEDICARE PROGRAMS	33
CCM elements and current Medicare programs	33
Direct quality incentives and Medicare programs	37
SUMMARY OF CURRENT PROGRAMS AND ISSUES	38
3. SYSTEM AND FUNDING REFORM OPTIONS	41
INCREMENTAL REFORM OPTIONS.....	41
Outcomes-based P4P	41
MBS-funded service coordination	42
STRUCTURAL REFORM OPTIONS	42
AN INTEGRATED MEDICARE CHRONIC DISEASE MANAGEMENT PROGRAM	43
Eligibility and access	44
Determination of level of need	45
Care planning.....	48
Services and coordination.....	48
Monitoring, feedback and incentives.....	51
SUMMARY: IMPLICATIONS OF REFORMS	53
BIBLIOGRAPHY	55
APPENDIX 1: MEDICARE ITEMS AND THE UK QOF INDICATORS	62
DIABETES.....	62
ASTHMA.....	64
MENTAL HEALTH	65

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Executive Summary

The purpose of this paper is to discuss options for program reform and re-alignment to improve chronic disease prevention and management in the Australian primary health care sector. This paper has been structured in three sections: (1) background and best practice in chronic disease management; (2) current chronic disease management programs in Australia; and (3) system and funding reform options.

Best practice in chronic disease management

Chronic diseases, such as diabetes and asthma, are a considerable challenge for the Australian health care system; one that will increase in the future. Current data on the management of chronic diseases in primary health care in Australia and internationally indicate that the quality of care provided is poor.

Internationally, significant health systems reform and development is being undertaken to address these issues. The key findings from international and Australian experience suggests that countries with stronger primary care systems have better health outcomes, and more effective management of chronic disease requires concentration on systemic factors including:

- Health care organisation that ensures governance and management of health care providers around the needs of consumers for enrolled or catchment populations.
- Partnerships between consumers and providers to ensure consumers are able to effectively self manage risks and chronic disease
- Consistent application of practice guidelines and decision support for the prevention and management of specific conditions such as diabetes, chronic obstructive pulmonary disease and renal disease
- Care pathways for prevention and management of chronic disease where consumers access programs and services on the basis of systematic assessment and care planning
- Coordinated, team based, multidisciplinary care across a service continuum ranging from risk prevention to complex care
- Integrated information systems for the transfer of client/patient information across providers, the provision of practice guidance and the coordination of care
- Payment models that promote best practice and effective outcomes for consumers.

It is recommended that reform of the primary and community care system for the prevention and management of chronic disease adopt internationally-recognised standards of best practice.

Current chronic disease management programs

Chronic disease management within the Australian primary health care sector is subject to a range of different programs at both the Commonwealth and state level.

There are a number of Commonwealth programs that provide the primary health care sector with the “tools” for better chronic disease management. Many elements of the chronic disease best practice are present in these programs. However, the considerable overlap and complexity within and between these programs significantly detracts from their effective

prevention and management of chronic disease for individual patients. Linkages between Medicare and other programs (e.g. state-based programs, community care programs) are fragmented, and considerable time and effort is expended trying to integrate the various separate elements of the system.

It is recommended that Commonwealth and state programs for the prevention and management of chronic disease are reformed in accordance with internationally recognised best practice.

System and funding reform options

Chronic disease management programs represent significant Commonwealth expenditure, with approximately \$2 billion per annum allocated by the Commonwealth to specific Medicare and community care programs (not including expenditure on Medicare more generally or other programs such as the Pharmaceutical Benefits Scheme).

The Commonwealth is the main funder of primary health and community care services and it is therefore recommended that Commonwealth-State funding arrangements are renegotiated so that the Commonwealth assumes overall responsibility for primary care chronic disease prevention and management programs.

Reform vision

Currently, the Commonwealth and the states are both involved in governance, funding, payment, regulation and monitoring of primary health and community care services. This significantly contributes to fragmentation and duplication of services. Chronic disease patients who also require comprehensive care and support in the community are particularly affected by this ineffective organisation of services.

It is recommended that funding for chronic disease prevention and management in primary health and community care is integrated into a single Commonwealth-funded Medicare program. Existing Medicare programs (PIP/SIP, CDM, GP MHC), community care programs (e.g. the HACC program) and state community health programs should be brought together for this purpose. Existing Medicare arrangements should be maintained for the general population not requiring coordinated chronic disease management.

Under the re-aligned program arrangements, a single point of entry for chronic disease prevention and management programs should be developed. This would require an assessment pathway tied to care planning and service delivery. Assessment, care planning and coordination could be provided through GP practices, superclinics or hospital demand management programs.

Funding should be tied to patients assessed as being entitled to participate in the chronic disease program depending on their level of need. Integrated funding tied to participating patients would be provided for assessment, care planning and coordination, service activity and performance. Performance payments could be developed, based on both patient outcomes and adherence to good practice processes.

The Divisions of General Practice could be redeveloped to manage performance-based agreements with GP practices, superclinics and community health services for chronic disease prevention and management. Hospital demand management programs could assess and refer

eligible patients and also manage performance agreements. Reformed GP Divisions would have a key role in implementing the systems reforms (e.g. IT/IM, guidelines, service coordination tools), required to reform primary and community care. Separate capacity-building funding for this purpose would be necessary.

Superclinics should be developed to have a primary focus on chronic disease prevention and management and with a service planning model based on best practice. The development of the superclinic model (occurring at both state and Commonwealth levels) should be closely tied to these Medicare reforms.

Potential model of chronic disease management

A comprehensive Medicare chronic disease management program would incorporate elements of existing Medicare programs in more integrated system. This would include bringing the existing Medicare mental health elements back into the chronic disease management structure. The proposed model would also include better integration of community care services with medical, allied health and mental health care. Entry to different levels of care for prevention and management would be based on a systematic assessment of the level of care individual patient/client needs. Three levels of care are proposed:

- *Level 1* – medical management only; for example, patients with a chronic disease and some risk factors, who present an uncomplicated clinical picture from a medical and psychosocial standpoint.
- *Level 2* – medical management plus multidisciplinary care; for example, patients with multiple chronic diseases and/or severe disease with numerous risk factors, who present a more complex clinical picture which requires the involvement of other health professionals to provide multidisciplinary care.
- *Level 3* – medical management, multidisciplinary care, case management and social services. This level of care would be reserved for those patients who, in addition to meeting the criteria for Level 2 care, have social care needs requiring more intensive support and case management beyond that which GPs and allied health professionals can provide.

The “service packages” provided to patients at each level reflect the services necessary to provide high-quality chronic disease care. In addition to the above levels of care, provision is made in the re-aligned structure for at-risk patients (requiring preventive management only). Allied mental health services and community care services would continue to be provided independently of chronic disease risk/need, but mental health care planning itself would be re-incorporated into the larger care planning process, to ensure ease of use.

The proposed realignment and reform of prevention and management of chronic disease has significant potential to improve services and outcomes for consumers. However, reform will require significant jurisdictional realignment and organisational reform. It is therefore recommended that a staged approach be adopted, particularly around the development of the recently announced superclinics.

1. Best practice for chronic disease management in primary health care

The Australian Institute of Health and Welfare (AIHW) reports that 77% of the population have at least one chronic medical condition, and that 80% of the burden of disease and injury in Australia is attributable to chronic diseases (AIHW, 2006). The major chronic diseases are areas of high health expenditure, with 2000-01 data indicating that \$5.5 billion (10.9% of allocated health expenditure) was spent on cardiovascular disease alone (NHPAC, 2005). With the expected increases in the demand for health services in the near future, it is anticipated that expenditure on health will continue to rise (Productivity Commission, 2005).

While the ageing of the population and high prevalence of chronic diseases will be major drivers of this increased expenditure, consideration must also be given to the population that is currently at risk of developing chronic disease. General risk factors for chronic disease are widely distributed in the Australian population, with 54% of adults being either overweight or obese, 50% not getting sufficient physical activity and 21% smoking tobacco (AIHW, 2006). These risk factors for chronic disease are disproportionately prevalent among the regional, low socioeconomic and Indigenous populations (AIHW, 2006).

‘Chronic disease’ itself is an umbrella term used to describe a diverse array of medical conditions, both communicable and non-communicable. The Australian Institute of Health and Welfare and the *National Chronic Disease Strategy* have broadly defined chronic diseases as being (AIHW, 2006; NHPAC, 2005):

- Complex and multi-factorial in causation
- Gradual in onset with variation in symptoms experienced: from acute or sudden onset of symptoms through to symptom-free periods
- Persistent and long-term in nature, leading to a gradual deterioration of health
- More prevalent with older age, but can occur throughout the life cycle
- Compromising to an individual’s quality of life through physical limitations and disability
- Not immediately life threatening but eventually leading to premature mortality.

Simple definitions of chronic disease often focus on their long-term nature as the principal criterion; for example, an illness that is not self-limiting lasting at least three months (Von Korff, Gruman, Schaefer, Curry, & Wagner, 1997).

In Australia, the most common chronic diseases include diabetes, cardiovascular diseases (e.g. ischemic heart disease), asthma, osteoarthritis and rheumatoid arthritis, chronic obstructive pulmonary disease (COPD), depression and cancer (AIHW, 2006). These are all conditions commonly seen in Australian primary health care practice (Bindman, Forrest, Britt, Crampton, & Majeed, 2007).

A universally-agreed definition of what constitutes ‘primary health care’ has been described as lacking (Doggett, 2007). The Health Evidence Network of the World Health Organization (WHO) has recently revisited the concept of primary health care relative to that originally expressed in the Alma Ata Declaration (WHO, 2004). The WHO views primary health care not only as a level of care but also in terms of its:

- *Content*: primary health care involves health education and promotion, as well as preventive, curative and rehabilitative activities. In addition, recent shifts in care provision have resulted in primary health care increasingly encompassing care traditionally provided in the hospital setting.
- *Process*: primary health care is described as a key process within the health care system involving frontline contact and ongoing, comprehensive and organised care. Primary health care is not merely the ‘gatekeeper’ for other levels of the health system.
- *Membership*: primary health care involves a broad range of health professionals. While general practitioners play an integral part in primary health care, the term ‘general practice’ is not considered synonymous with primary care.

A recent Australian policy position paper on primary health care published by the Centre for Policy Development has constructed its definition of primary health care in terms of the commonalities found within the primary health care literature (Doggett, 2007). These common components include the:

- *Types of care provided*: primary health care emphasises the provision of coordinated and/or multidisciplinary care over time.
- *Setting of care provision*: primary health care is usually provided in the community.
- *Providers themselves*: primary health care providers include general practitioners as well as other health professionals and workers.
- *Activities of care*: primary health care is geared towards the prevention, management and treatment of common (and often chronic) illnesses.
- *Underpinning values*: primary health care focuses on equity in access, universality, responsiveness and appropriateness.

Queensland Health’s current position statement on primary health encompasses similar elements in its definition of primary health care (Queensland Health, 2002). Queensland primary health and community care services and activities are described as:

- Spanning the prevention, management and maintenance continuum
- Supported by a social view of health that recognises the role of environment, community and socioeconomic factors
- Providing health protection and promotion services, as well as illness prevention, early detection, assessment and treatment
- Community-based support and management for the elderly and for people with chronic and complex conditions.

Primary health care has in part been considered a definable area of clinical work on the basis of the disease conditions treated (usually chronic), and that primary care is “not merely the activities that are not performed by specialists” (Bindman et al., 2007). Others, such as the Australian Health Care Reform Alliance (AHCRA), argue that primary health care should not be considered ‘disease focused’ but rather ‘person-focused’, providing both first contact access as well as comprehensive and coordinated care (AHCRA, 2005).

In Australia, primary health can be defined in a componential way according to funding and provider-related elements (Naccarella et al., 2006). Under this definition, primary care is viewed as a complex system containing both public and private services, with programs

funded at both Commonwealth and state government levels. The main components at the provider level are general medical practice (provided by general practitioners and largely Commonwealth-funded by Medicare) as well as community health services and programs, varying in composition and funding sources.

In summary, primary care is defined by: the community based settings in which it is provided; its key role as the universal first point of contact and closest health service for consumers; and the range of activities provided to prevent disease and to support people at home.

Over time, primary health care services have grown dramatically in capacity and complexity as hospitals have decreased their length of stay, mental health and disability services have been 'deinstitutionalised' and families have increasingly relied on complementary formal health services to support their caring role. However, this growth has occurred incrementally, layer upon layer with often divergent Commonwealth and state objectives. Currently, there is no nationally agreed framework for the development of primary health care services.

In relation to chronic disease, primary health care is understood to increase health outcomes and to decrease health system costs (Starfield & Shi, 2002; Starfield, Shi, & Macinko, 2005) and as having a beneficial impact on the prevention and management of health problems *before* they become serious enough to require acute-based care (Starfield et al., 2005). As such, primary care is viewed as being fundamental to addressing the increasing need for care of chronic diseases (Bodenheimer, Wagner, & Grumbach, 2002a, 2002b).

In general, the literature strongly supports the importance of the primary care sector in prevention, early intervention and management of chronic disease. Recently, there has been considerable discussion of the systemic and service delivery components associated with high quality chronic disease care (Bodenheimer et al., 2002a, 2002b; Wagner et al., 2001). These issues are discussed below.

Quality of care for chronic diseases

Recent trends in health systems development have seen an increasing interest in improving the quality and outcomes of care (both acute and chronic), rather than simply focusing on constraining growth in health care costs (Ferlie & Shortell, 2001). This trend is also evident in Australia: a systematic review of models of primary health care delivery has argued that Australian primary care reform has increasingly focused on improving both quality and health outcomes alongside desired improvements in cost-effectiveness, access and equity (Naccarella et al., 2006). The focus on improving quality as part of health system reform is vital, as evidence regarding the often poor care delivered to patients has highlighted quality of care as a significant issue for the health system generally (Ferlie & Shortell, 2001) and the management of chronic disease in primary health care specifically (Grumbach & Bodenheimer, 2002; Rothman & Wagner, 2003).

A significant study of the quality of medical care delivered to 6,712 adults in the United States, published in the *New England Journal of Medicine*, indicated that for chronic disease patients, the percentage of recommended care received was 56.1% (McGlynn et al., 2003). This study also demonstrated that the quality of care varied considerably between different chronic diseases: the percentage of recommended care received for hypertension was 64.7%, compared to only 10.5% for alcohol dependence. Other large US studies of the quality of care for specific chronic diseases within the system have shown a similar pattern. For

example, a study of 1,636 adults with probable depressive or anxiety disorders found that 80.5% of individuals who visited only primary care providers received poor quality overall care, compared with 10.1% visiting both primary care providers and mental health specialists who received poor quality care, and 11.4% visiting mental health specialists alone who received poor quality care (Young, Klap, Sherbourne, & Wells, 2001).

Deficiencies in the quality of *specific* elements of disease care are best illustrated by studies of type II diabetes. A follow-on study of diabetics from previous US National Health and Nutritional Examination Surveys have shown that 37.0% of participants achieved the target HbA1c level of 7% or less, and 35.8% achieved the target blood pressure level of 130/80 mmHg or less (Saydah, Fradkin, & Cowie, 2004). When all major treatment targets are considered (HbA1c, blood pressure and cholesterol levels), only 7.3% of adults attained recommended outcome levels.

In addition to the effects of poor quality of care for the patient, these deficiencies also have significant cost implications for the health care system. Again using diabetes as an example, a study of the relationship between HbA1c levels and medical care charges over a four-year period have shown that charges accelerate with higher HbA1c levels (Gilmer, O'Connor, Manning, & Rush, 1997). Table 1 shows the percentage increase in cost for every 1% increase in HbA1c, relative to a patient with a HbA1c level of 6%.

Table 1: Increase in medical care charges with increasing HbA1c values for diabetic patients, with or without cardiovascular co-morbidity

HbA1c value (%)	Patients with diabetes only (% increase)	Patients with diabetes, hypertension and heart disease (% increase)
6	-	-
7	5	4
8	11	10
9	21	18
10	36	28

Adapted from Table 5 of Gilmer et al., 1997.

Studies of the quality of care in Australia are limited in number and size. A systematic review of 90 quality of care studies conducted in the non-acute health care sectors of the United Kingdom, Australia and New Zealand has shown that, in general, the quality of care provided does not meet acceptable standards of practice (Seddon, Marshall, Campbell, & Roland, 2001). While this review was limited by the paucity of Australian and New Zealand quality of care studies conducted to that time, Australian studies published since the review have demonstrated a situation comparable to that in the US. Specific Australian examples of the quality of care for chronic diseases include:

- *Asthma* – a survey of parents to determine the quality of care provided to their asthmatic children, conducted during emergency department visits, found that 60% of children with persistent or frequent episodic asthma were not using preventive medication, 48%

of children did not have a written asthma action plan and 39% had not had their asthma reviewed in the previous six months (Haby, Powell, Oberklaid, Waters, & Robertson, 2002). In addition, 51% of parents did not feel they had enough information about asthma triggers and 38% did not feel they had enough information about their child's asthma overall.

- *Hypertension* – as part of the AusDiab study, follow-up examinations of 11,247 adults over 25 years found that of those found to have untreated hypertension, 80.8% had had their blood pressure checked in the previous 12 months (Briganti et al., 2003). Among treated individuals, 39.7% had normal blood pressure levels and 35.7%, 17.7% and 6.9% still had mild, moderate or severe blood pressure elevations respectively.
- *Diabetes* – a study of over 3,000 patient records across Australia for outcomes demonstrated that 47.9% of records showed patients still had a HbA1c level of more than 7%, 87.6% had total cholesterol levels greater than 4.0 mmol/L and 73.8% still had blood pressure above 130/85 mmHg (Wan et al., 2006). Of patients deemed at a higher absolute risk of coronary heart disease, 76.8% were not on lipid-modifying medication and 66.2% were not on antihypertensive medication.

There is also an increasingly widespread perception of poor quality care among medical professionals and patients here in Australia and internationally. The Commonwealth Fund has conducted two international surveys regarding the perception of quality among physicians (defined as general practitioners, primary care physicians and medical specialists) and patients (Blendon et al., 2001; Schoen et al., 2005). The physician survey, conducted in 2000, indicated that 38% of Australian physicians surveyed believe that their ability to provide quality care had declined in the past five years, and 44% believe that the quality of care will decline in the future (Blendon et al., 2001). Among diabetic patients surveyed, 41% of respondents had received all four of the recommended tests mentioned in the survey (HbA1c testing in the previous six months and podiatric, ophthalmic and cholesterol testing in the previous 12 months), and 78% of hypertension patients surveyed who had received both cholesterol and blood pressure checks in the previous 12 months (Schoen et al., 2005).

Notwithstanding the above, the importance of the primary health care system in prevention, early intervention and management of chronic disease is well accepted. The evidence suggests there is considerable room for improvement and a growing demand for services. Reform of the primary health care sector must consider not only the increasing demands that chronic disease will place on the health system in the future (particularly in terms of costs) but also the quality of care delivered. Recent developments in health system design, particularly as applied to the primary health care sector, have increasingly considered quality of care as both an impetus for changing the current system and an integral component of the future system, as discussed below.

Best practice models for chronic disease management

Proponents of chronic disease-focused reforms to the health system argue that a “mismatch” exists between the needs of chronic disease patients and medical care provided due to the traditional acute care orientation of existing health systems, creating what has been termed the “tyranny of the urgent” (Bodenheimer et al., 2002a; Wagner et al., 2001; Wagner, Austin, & Von Korff, 1996). Recognition of the growing problem that chronic diseases pose to the health system, and the less-than-optimal care provided, has resulted in the development of the

Chronic Care Model (CCM) to address this mismatch (Bodenheimer et al., 2002a, 2002b; Wagner et al., 2001).

The CCM has been derived from both practical quality improvement efforts as well as the medical literature, and addresses the common challenges posed by chronic diseases of any type. The model was developed with particular regard to studies of multi-faceted interventions for diabetes that demonstrated improved quality of care in terms of adherence to recommended care processes and improvements in clinical indicators such as HbA1c (Bodenheimer et al., 2002a; Wagner et al., 2001). The six elements of the CCM are (Barr et al., 2003; Bodenheimer et al., 2002a; Wagner et al., 2001):

- *Health care organisation* – this element ensures that chronic care overcomes the “tyranny of the urgent” and is considered a priority within the organisation; innovation in chronic care cannot occur unless this is recognised.
- *Self-management support* – in changing focus from acute to chronic care, the role of patients has similarly shifted from the traditionally passive role in acute care to more active involvement in their own chronic care. Many aspects of chronic illness care, such as physical activity and nutrition, are directly controlled by patients themselves and optimal health outcomes require support for such self-management by patients.
- *Decision support* – evidence-based guidelines are integrated into everyday clinical practice to support the delivery of optimal chronic care.
- *Delivery system design* – this element envisages a focus on teamwork between ‘physician and non-physician’ health care professionals to ensure the delivery of planned multidisciplinary care to patients.
- *Clinical information systems* – the CCM recognises the importance of information technology and management in optimising patient care. Clinical information systems support registers of patients (for both planning and population care approaches), the infrastructure for dissemination and use of the decision support elements of the CCM, and the ability to provide feedback on the quality of care provided (e.g. performance against clinical indicators such as HbA1c).
- *Community resources and policies* – the provision of optimal chronic care requires that health care providers are linked with community organisations that provide patients with other support services; for example, exercise programs, social supports.

It has also been suggested that, in addition to a model for the organisation of the health system to provide optimal chronic disease management, the elements of the CCM can also encompass chronic disease prevention and population health promotion (Barr et al., 2003; Glasgow, Orleans, & Wagner, 2001). This ‘expansion’ of the CCM is viewed as being advantageous as it provides a unified *and* comprehensive conceptual basis for health system reform for chronic disease prevention and management (Glasgow et al., 2001).

Practical application of the Chronic Care Model

The effective realisation of the CCM in the primary health care system requires consideration of a variety of practical factors, including:

- Team-based multidisciplinary care
- Triage

- Assessment
- Payment and funding models
- Information technology and management
- Incentives for patient monitoring and continuity of care.

Each of these factors are discussed below.

Team-based multidisciplinary care

Multidisciplinary team-based care is strongly supported in the literature. In the UK, Spencer (1997) notes that “it is evident that every major report on general practice and primary care has extolled the virtues of the [primary health care] team, from the Dawson Report in 1920 right through to the present”. In Australia, reforms to general practice have had a similar emphasis on the importance of continuity of care.

A significant body of research on primary health care coordination has focused on the development of multidisciplinary teams. Usherwood et al. (1997) note that, in response to changes in funding, legal and contractual arrangements, health service organisation and new technology, the organisation of general practice in the UK has shifted from relatively isolated “cottage industry”, typically based around one or two GPs and a practice nurse, to a more diverse team-based model which includes GPs, nurses, allied health staff, social workers and a range of administrative staff.

Research on the effectiveness of primary care teams has sought to examine the relationship between inputs (e.g. team size and skill mix), processes (e.g. the establishment of objectives and way tasks are managed), outputs (e.g. patient satisfaction) and health outcomes (Grumbach & Bodenheimer, 2004). Most research has focused on the relationship between inputs, processes and outputs and on strategies for team building and improving team functioning, including the use of workshops (Gooding, 1997), facilitation and support (Bryar, 1997), continuous quality improvement (Baker & Hearnshaw, 1997) and practice manifestos (Freak & van Zwanenberg, 1997). Team-based primary care has been found to be effective with a range of population groups including those with terminal illness (Hughes et al., 2000) and chronic illness (Rothman & Wagner, 2003).

UK research on primary health care teams suggests that teams are more efficient and viable and approach their tasks more effectively if they are smaller and establish clear objectives for their operation; US research has drawn similar conclusions (Grumbach & Bodenheimer, 2004). Grumbach and Bodenheimer propose that cohesive primary health care teams possess five characteristics: clear goals with measurable outcomes, clinical and administrative systems, division of labour, training of all team members, and effective communication; they suggest that more cohesive teams have better clinical outcomes and higher levels of patient satisfaction.

Primary care teams allow new roles to develop and for the scope and practice of existing roles to alter. There has been considerable interest in nurses working as substitutes for GPs; for example, in the UK nurses are working closely with GPs, often substituting for tasks previously performed only by GPs. The evidence suggests the care nurses provide as first contact practitioners and in ongoing care is comparable of that of GPs, but that they are often less productive (longer consultations, increased tests, more recalls) and there are significant costs associated with training staff, establishing new roles and creating the administrative and

legal framework required to allow for the extended scope of practice (Sibbald, Laurant, & Reeves, 2006).

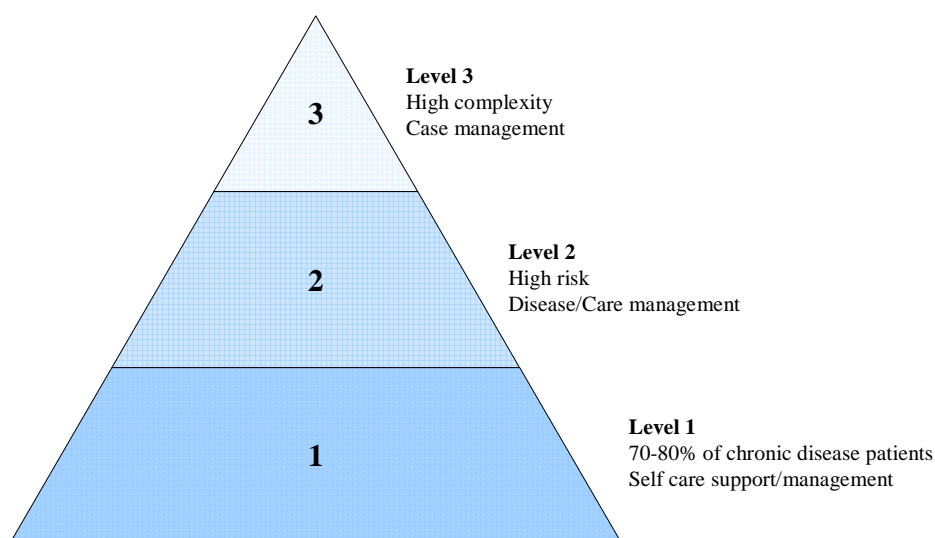
A recent and critical feature of practice that needs to be built into team-based care is a much greater focus on collaborative partnerships with chronic disease patients. By definition, it is inevitable that those with a chronic disease will have the most significant role in preventing its progression and managing the treatment and consequences. The evidence suggests that those with greater skills in self-management of chronic disease and who have stronger partnerships with their health care team are likely to have better health outcomes and more effective utilisation of health services (Walker, Swerissen, & Belfrage, 2003; Weeks et al., 2003). Multidisciplinary teams will increasingly need to take the importance of self-management and partnerships with consumers into account.

Triage

Triage is a fundamental and cost-effective step in the development of chronic disease programs and appropriately targets interventions according to severity and risk (Bodenheimer et al., 2002b). The notion of triage is well established in medicine; in the Australian primary health care system triage primarily takes the form of the Medicare requirement for a general practitioner to provide patients with a formal referral to a specialist practitioner. This 'gatekeeper' system ensures appropriateness and cost effectiveness, since referrals to specialist care are made for those patients with severe and/or complex medical conditions requiring such a level of care.

In chronic disease care it is well established that individual patients require different levels of care and intervention, ranging from minimal/self-help approaches through to intensive case management (Von Korff et al., 1997). The notion of graded intensity of chronic disease care is embodied in the 'Kaiser Triangle' (Figure 1), developed by Kaiser Permanente, a California-based managed care organisation (Hudson, 2005).

Figure 1: The Kaiser Triangle of the levels of care for chronic disease patents (adapted from Hudson, 2005).



The *National Chronic Disease Strategy* has adopted the Kaiser Triangle as its model of the levels of care that the health system must be able to provide (NHPAC, 2005). In Victoria, the

Kaiser Triangle has been adapted to encompass population-based prevention efforts as constituting a discrete level of care (DHS, 2006), conceptually similar to the expanded CCM discussed above. In the Victorian chronic disease management program guidelines, levels 2 and 3 of the Kaiser Triangle are assigned to chronic disease patients with complex needs who either frequently use hospitals (as for level 3) or infrequently use hospitals and/or are at imminent risk of hospitalisation (level 2). Level 1 contains chronic disease patients with or without complex needs who may progress to requiring hospitalisation in the medium to long term. An additional level then expands the Kaiser Triangle and targets the wider population, focusing on risk factor reduction, health promotion and primary prevention. Using this method of triage, health policy has been targeted to patients across the spectrum of needs and complexity: from the Hospital Admission Risk Program at levels 2 and 3, the Early Intervention in Chronic Disease initiative (to support self-management approaches) at level 1 and the Diabetes Prevention Program (to support lifestyle changes for pre-diabetics) at the population level.

The CCM itself implicitly provides for a system of grading interventions according to need. For example, the provision of multidisciplinary services as part of the delivery system design element will naturally vary according to the needs and complexity of a patient. This aspect will not only consider the medical complexity of a patient (i.e. those requiring the involvement of a specialist practitioner) but also a broader picture in terms of the psychosocial needs of a patient (e.g. a multidisciplinary care team involving allied health professionals and social workers). The intensity of self-management support required by a patient will also vary according to need, as will the community linkages drawn upon by the care team.

In the literature, *stepped care* has been used to describe formal triaged care. It is defined as:

[P]roviding a framework for the care of patients with chronic illnesses that uses limited resources to their greatest effect on a population basis. Stepped care is based on three assumptions: different people require different levels of care; finding the right level of care often depends on monitoring outcomes; and moving from lower to higher levels of care based on patients outcomes often increases effectiveness and lowers costs overall. (Von Korff & Tiemens, 2000)

Such targeting of more intensive interventions to patients with greater needs is likely to improve overall cost-effectiveness. For example, in the treatment of depression many patients will achieve favourable outcomes with routine care, whereas others will require more intensive and collaborative interventions. In a study of major depressive disorder, patients whose depressive illness had not improved six to eight weeks after the commencement of routine care with their primary care physician were 'stepped up' to the next level of care which used a more collaborative approach (Katon et al., 1999; Simon et al., 2001). The study found that those patients progressing to the next step had a much higher prevalence of dysthymia and a slightly higher recurrence of depressive symptoms than would normally be expected if assigning the collaborative intervention in a random (rather than stepped) manner, indicating that the more intensive treatment was directed to those patients most in need (Katon et al., 1999). Substantial increases in treatment effectiveness for these patients were noted, along with a moderate increase in cost of care; the return on investment in this approach was considered comparable to other widely-accepted medical interventions (Simon et al., 2001).

Assessment

Triage can be made more reliable and consistent by applying standardised assessment tools to determine the category of care that is most likely to meet the needs of a person with a chronic disease. Several general measures to assess the impact of chronic disease have been developed, including the Sickness Impact Profile and the Chronic Illness Problem Inventory.

The Sickness Impact Profile is a generic scale that measures the impact of illness on both physical and emotional functioning (Bergner, Bobbitt, Kressel et al., 1976; Bergner, Bobbitt, Pollard, Martin, & Gilson, 1976). It encompasses two domains (physical and emotional) across 12 categories: sleep and rest; eating; work; home management; recreation and pastimes; ambulation; mobility; body care and movement; social interaction; alertness behaviour; emotional behaviour; and communication.

The Chronic Illness Problem Inventory is a 65-item measure of behavioural problems associated with chronic illness (Kames, Naliboff, Heinrich, & Schag, 1984). As with the Sickness Impact Profile, problems of functioning are rated on a five-point scale. There are 18 scales: activities of daily living; inactivity; social activity; friends/family contact; employment; sleep; eating; finances; medication; cognition; physical appearance; body deterioration; sex; assertion; medical interaction; marital overprotection; marital difficulty; and non-marital relationships.

While scales such as these are useful in assessing the impact of chronic disease on physical, psychological and behavioural functioning, they have not been developed to link consumer characteristics to service utilisation and cost. Linking resource utilisation and payment systems to assessment is an important issue for the development of integrated chronic disease management services.

Payment and funding models for chronic disease

Payment models for general practice form the cornerstone of funding for primary health care, particularly in Australia. A number of different models of GP payment exist, with the major models being (Gosden et al., 2000; Scott, 2000):

- *Fee-for-service (FFS)* – FFS pays GPs on the basis of the volume of services they provide. At a health system level this payment model can create difficulties in controlling expenditure as well as creating an incentive to increase the volume of services provided, which does not necessarily improve patient outcomes. In addition, the link between volume and income creates a situation in which additional care (e.g. in the form of longer consultations with patients or preventive care) reduces income (van Weel & Del Mar, 2004).
- *Capitation* – under a capitated system, GPs receive payment for every patient in their care at a set rate (i.e. regardless of the care actually provided) which may be risk-adjusted for patients likely to require more care (e.g. the elderly). While potentially encouraging preventive care and health promotion (to reduce future costs), capitation can also cause ‘cream-skimming’ where providers select against patients likely to require more care. Risk-adjusted capitation models have been advocated as a potential means to address this deficiency (Lamers, 1999).

- *Salary payment* – the payment of a fixed salary (per hour/session/year) to GPs on a contract basis. While administratively simple, this model may produce an incentive for GPs to minimise efforts in patient care.
- *Blended payments* – a variety of blended approaches to GP payment are used internationally, incorporating elements of all the above payment methods to differing degrees.

In the Australian primary health care sector, the majority of funding for GPs is provided by Medicare under the FFS model—a system that enjoys strong support from GPs themselves (Naccarella et al., 2006; van Weel & Del Mar, 2004). Attempts have been made to incorporate elements of capitation into the Australian system via the Practice Incentives Program (PIP), which was designed to encourage best practice in the care of certain diseases.

General experience in the US suggests that large-scale managed care organisations have been able to implement the CCM whereas small-scale practices, particularly if they are largely funded on a FFS basis, have not (Wagner et al., 2001). In the Australian context, the dominance of FFS has been identified as one of the key factors contributing to poor quality of care by encouraging reactive, rather than systematic, care (Harris & Zwar, 2007). Other identified limitations in the Australian GP payment system include the lack of incentives for GPs to practice in low socioeconomic areas and/or treat highly complex patients (Naccarella et al., 2006). It has been argued that, in the past, the inflexibility of the payment system has held back coordination of chronic disease care in that *only* services provided by GPs were reimbursed, and not the preventive or coordination services provided by practice nurses (van Weel & Del Mar, 2004). The role of nurses in primary health care and multidisciplinary team-based care has been described as key to reform implementation (Naccarella et al., 2006).

The relationship between classification and resource allocation in health care now has an extensive literature, particularly in the application of casemix models for acute hospital settings. The development of resource utilisation models for primary care settings and chronic disease management is less developed. However, there are two major approaches.

The first major approach is that of functional or dependency classification models linking assessments of functional needs, such as assistance with activities of daily living, to resource utilisation. Internationally, the best known of these models has been based on the development of Resource Utilisation Groups (RUGs). The InterRAI network has developed a set of integrated assessment instruments to assist in allocating resources for people with chronic and long-term care needs. The InterRAI measures were originally developed for older people with residential care needs. However, more recently, the scope has been broadened to include community care and the needs of people with chronic disease and disabilities. The InterRAI scales can be used to classify consumers into Resource Utilisation Groups (RUG III) on the basis of the cost of care they incur using standard casemix classification procedures (Fries, Shugarman, Morris, Simon, & James, 2002).

Continuing care payment schemes for the community care sector are less well developed in Australia, although the Community Aged Care Packages scheme (specifically targeted at people assessed as eligible for residential care) attracts a subsidy level similar to that paid to residents who previously fell into the Personal Care – Low category of the former PCAI (Gibson & Mathur, 1999). The RAI-Home Care tool has also been trialled in Australia through the North East Coordinated Care Trial in Victoria.

The second major approach to the development of allocation models for primary care and chronic disease has been the development of ambulatory care classification systems. These approaches link resource utilisation to diagnostic classifications.

Prospective payment systems for acute inpatient episodes predict the costs of a specific acute episode of care for patients classified into diagnosis-related groups. In contrast, ambulatory classification systems aim to predict aggregate health care costs for groups of consumers for a given time period across relevant episodes of care for that period; they are person—rather than episode—focused. When prospective predictions of cost variation based on ambulatory care groups are satisfactory, risk assessment can be used for a range of purposes, such as risk-adjusted capitation payments for ambulatory, specialist or all health services for enrolled or geographic populations, utilisation review processes, and research and quality assurance.

Risk adjustment methodologies have to be administratively feasible, clinically relevant, produce homogenous within group costs, discriminate satisfactorily between groups, and allow for adequate adjustment to reflect changes in care inputs and technology. In addition, these methodologies must also address gaming, adverse or biased selection.

Ambulatory Diagnostic Groups (ADGs) and Ambulatory Care Groups (ACGs) were developed by Starfield et al., at Johns Hopkins University to address these issues (Starfield, Weiner, Mumford, & Steinwachs, 1991; Weiner et al., 1996). ADGs and ACGs have a complementary relationship which involves a four-step process. In the first step, approximately 5000 diagnostic codes from the International Classification of Diseases (Ninth Edition, Clinical Modification [ICD-9-CM]) are classified to one of 34 ADGs for each health care encounter consumers may have over a designated period of time (such as three months enrollment in a managed care organisation). ADGs are clusters of ICD-9-CM codes which have similar severity and persistence over the time period. Assignment takes into account severity, duration, specialty involvement, aetiology, and diagnostic certainty (based on the presence or absence of objective diagnostic data) and should therefore reflect homogeneous resource utilisation for similar conditions. Consumers can have from 1 to 34 ADGs for the given time period; consequently, many combinations of ADGs are possible for any one consumer.

In step two, the large number of possible combinations of 34 ADGs may have consumers are collapsed into 12 ‘collapsed ADGs’. ADGs within these groups have similar probabilities of disease recurrence and persistence.

In step three, mutually exclusive combinations of the 12 collapsed ADG groups are identified. A grouping algorithm is used to develop mutually exclusive categories of these groups, known as Major Ambulatory Categories (MAC).¹ The algorithm forces each consumer into one of these 25 MACs. Finally, the grouping algorithm adjusts MACs for age, sex, number of ADGs and the presence or absence of particular ADGs to produce 51 mutually exclusive ACGs.²

The classification aims to produce clinically meaningful groups that maximally explain variations in resource utilisation. This may include total number of ambulatory visits in a

¹ The details of grouping software can be found at <http://www.acg.jhsph.edu/index.htm>.

² More recently these have been further divided into subgroupings to produce a total of 93 possible ACG categories; see <http://www.acg.jhsph.edu/>.

designated time period, the number of visits to specialists, diagnostic and pathology use, and overall resource use (including ambulatory, acute and sub-acute). As a result of this broad application, the ACGs have recently been renamed “adjusted clinical groups”.

Ash and Ellis (2000) developed Diagnostic Cost Group (DCG) and Hierarchical Coexisting Condition (HCC) models in the 1980s to better match Health Maintenance Organisation (HMO) payments to the needs of their members. These models reduce ICD-9-CM diagnostic codes to 545 clinical homogeneous “DxGroups” that describe similar medical conditions for a given time period. These groups are subsequently clustered into a clinically coherent Condition Categories (CCs), which have similar expected costs. The DCG/HCC model has 118 CCs. These are organised into clinically relevant hierarchies based on likely resource use (cost) and consumers may have more than one CC. These are collapsed into 30 broad condition categories representing broad body systems. DCG models use highest cost conditions to predict overall costs. This is a simple and robust approach, but provides only a partial description of costs.

To overcome the limitations of using only the most costly CC to predict overall costs, HCC models aggregate the marginal cost associated with each condition in the clinical hierarchy to arrive at a total cost for each person. While consumers can only fall into one DCG, they may belong to a number of HCCs.

Information technology and management to support the CCM

The recent APHCRI systematic review of models of primary health care has reviewed the role that information management and information technology (IM/IT) is expected to play in the reform and development of primary care (Naccarella et al., 2006). In Australia, internal IM/IT system development has been identified as a factor in a general practice’s capacity to deliver quality chronic disease care, but the review highlights that the need for a consistent approach throughout the health system.

IM/IT can be used to enhance communication between patients and practitioners, and a variety of approaches have been used in this area (Celler, Lovell, & Basilakis, 2003). There is great scope for the effective use of IM/IT to support the CCM, particularly in terms of both decision support and clinical information systems. Most recently, a large systematic review of informatics systems for chronic disease care has been published (Dorr et al., 2007). The review concluded that the majority of studies in the area have shown that IM/IT is useful in the provision of chronic disease care. The core components of IM/IT systems that were identified as relating to success include:

- Connection to a broad electronic health record system
- Order entry specific to the disease and focused on the care team, and allowing for longitudinal care planning
- Population-based reporting and feedback mechanisms (which include reporting of unfinished care planning elements).

IM/IT for decision support was also identified as important; however, simple provision of guidelines via computer prompts was less likely to be a successful strategy.

As an applied example of IM/IT development in chronic care, the Medical Informatics Network Tool (MINT) has been used to support collaborative care for schizophrenic patients

(Young, Mintz, Cohen, & Chinman, 2004). Notable elements of this system that highlight the application of IM/IT to CCM-style care include:

- Incorporation of disease-specific assessment modules. In this example, the software includes ‘psychiatric vital signs’ that are derived from a standard assessment of symptoms, medication side effects and compliance, recent problems (medical/social), general health status (e.g. BMI) and presence of substance abuse. This assessment is conducted by a nurse prior to the patient seeing the psychiatrist, and entered onto the system. The results of the assessment are provided to the psychiatrist during the consultation, alongside previous results, in order to properly track progress and highlight results requiring attention.
- Quality of care feedback to psychiatrists that provides information regarding clinical problems (treatment compliance, symptoms and medication side effects) requiring attention. Quality management within the software also provides information about patients who are not receiving particular services according to existing protocols or guidelines.
- Messaging among all clinicians involved and the provision of interactive treatment guidelines.

While tailored to the specific requirements of schizophrenia care, the broad concepts of the CCM are illustrated by the MINT example. Triage and monitoring of clients according to disease-specific assessments by nurses can provide medical practitioners with pertinent at-a-glance information, and allows for information distribution and care planning among clinicians involved in patient care. Similar IM/IT systems would also be able to provide clinicians with appropriate feedback regarding the quality of care (e.g. most recent HbA1c results in the case of diabetics) and data regarding patients who have not yet received particular services, tests or interventions.

Incentives for patient monitoring and continuity of care

Best practice chronic disease management models place emphasis on monitoring patients and ensuring continuity of care across time, professionals and settings. In the US, pay-for-performance (P4P) schemes have been developed to address this issue in managed care and health maintenance organisations. In the UK, performance payments have been included as part of the General Medical Services (GMS) contract (discussed further in the next section).

In the US, P4P schemes are becoming more widely used (Rosenthal, Landon, Normand, Frank, & Epstein, 2006). Typically these schemes establish quality and cost indicators for performance for particular patient groups. Physicians or health care organisations provide data and are paid for performance on the agreed indicators. P4P schemes shift the emphasis from performance on output measures to process and outcome (quality) indicators.

In the UK, the GMS contract includes the Quality and Outcomes Framework (QOF), which includes indicators for a range of chronic diseases. Practices earn part of their income by their performance against these indicators, which include clinical care, access and consultation length. Typically, practices need to be able to demonstrate that their record-keeping system allows them to identify patients with priority diseases and that they have key indicators of good practice and clinical outcomes for patients in each group. In the UK, one-third to half of practice remuneration is derived from performance on quality indicators (Kmietowicz, 2006).

Bodenheimer, Wagner and Grumbach (2002a) argue that if:

an organization's goals and leaders do not view chronic care as a priority, innovation will not take place. The reimbursement environment of a provider organization has a major impact on chronic care improvements, which are more likely to survive throughout the long term if they increase revenues or reduce expenses. If purchasers and insurers fail to reward chronic care quality, improvements are difficult to sustain.

Thus, linking the quality of outcomes attained to reimbursement as seen in the P4P model is considered an essential element of the CCM.

Effectiveness of primary care in reducing acute care demand

A recent review of the contribution of primary health care to health systems has highlighted the benefits offered by primary health care in managing health problems early and avoiding the need for acute care (Starfield et al., 2005). Numerous examples show that lower rates of hospitalisation for many ambulatory care sensitive conditions (ACSCs) are associated with receiving primary health care, with primary health care often being measured in simple ways, such as the number of practitioners in an area. One such study has shown that the higher numbers of family/general practitioners per head of population is associated with a reduction in the rate of avoidable admission to hospitals for certain conditions, including angina, asthma and diabetes (Parchman & Culler, 1994).

Beyond simple association studies between hospitalisation and the number of general practitioners in a given area, the various elements of the CCM in primary health care have also been studied for their effectiveness in reducing demand on acute care services. Numerous CCM-style interventions have been described in the literature as reducing demand on acute care services, with notable examples including:

- A large randomised trial of the Stanford Chronic Disease Self-Management Program in patients with various chronic diseases has demonstrated that alongside improvements in health, activity and quality of life measures, the program also significantly reduced hospitalisations and days spent in hospital (Lorig et al., 1999). A smaller cohort study of the same program has also shown a slight reduction in emergency department visits (Lorig, Sobel, Ritter, Laurent, & Hobbs, 2001).
- In congestive heart failure, a randomised controlled trial of a program of nurse-led multidisciplinary intervention and follow-up resulted in a 56.2% reduction in hospital re-admissions and better quality of life scores (Rich et al., 1995). Overall, the reduction in acute care demands resulted in lower costs of care for the intervention patients.
- For diabetic patients treated by Kaiser Permanente, a long-term management program has been associated with lower instances of inpatient care compared to diabetic patients receiving usual care (Domurat, 1999). Significantly, patients within the long-term management group who disengaged with the intervention were noted to revert to pre-intervention levels of hospitalisation.
- A Canadian study of general continuity of care has demonstrated a relationship between continuity of care, the receipt of preventive health care and a reduced likelihood of emergency department visits (Menec, Sirski, & Attawar, 2005).

In certain circumstances, the provision of primary health care has occasionally been shown *not* to impact on avoidable hospitalisations (Starfield et al., 2005). In one such study, socioeconomic factors were found to be overriding; residents in highly deprived areas in North Carolina were not able to access the necessary primary health care, regardless of the number of practitioners in the area (Ricketts, Randolph, Howard, Pathman, & Carey, 2001). Providing enhanced primary health care does, however, have the potential to *increase* hospital admissions (and costs) in certain groups. For example, in severely ill and initially-hospitalised US military veterans, the provision of a more intensive primary health care intervention (including close follow-up by a nurse and physician) has been shown to increase the rate of readmission to hospital (Weinberger, Oddone, & Henderson, 1996).

Summary: primary health care and chronic disease management

Despite recent advances in clinical and behavioural interventions for chronic diseases, many chronic disease patients are not “reaping the benefits” of these improvements (Wagner et al., 2001). There are now relatively well-articulated models for the development of effective service systems and practice for the prevention, early intervention and management of chronic disease. However, those with chronic disease continue to receive relatively poor quality care, particularly in primary and community settings. There are convincing arguments to suggest that greater health gains are likely by systematically applying what is already known to be effective, rather than by exploring more powerful interventions for chronic disease (Woolf & Johnson, 2005).

The available evidence suggests that the CCM provides a significant mechanism to improve the health and quality of care for individuals and improved return-on-investment for society. However, the CCM must have the necessary policy, infrastructure and funding support in order to bring about such improvements, and reform and redesign of current health policy and systems in Australia will be required to move forward in the care of chronic diseases.

The next section will to examine Australia’s current approach to the management of chronic disease in the primary health care sector, relative to the various international models of system design and funding discussed above.

2. Current chronic disease management programs

A variety of Commonwealth and state programs affect chronic disease management in the Australian primary health care sector. This section will provide a critique of current Commonwealth programs specifically relevant to chronic disease management, as well as relevant state-based and community care programs. The programs discussed will be considered relative to the elements of the CCM and other aspects of quality chronic disease management seen internationally.

This examination of the current program arrangements for chronic disease will form the basis for a discussion of potential reform options available to improve chronic disease management in the Australian primary health care system.

Medicare

As at early 2008, the Medicare programs and Medicare Benefits Schedule (MBS) items specifically relevant to chronic disease management are the Practice Incentives Program (PIP), the Chronic Disease Management (CDM) program, the GP Mental Health Care (GP MHC) program, and the various health check/assessment items.³

Practice Incentive Program

The PIP was introduced in 1998 to provide recognition and financial incentives to general practices providing quality care in line with the Royal Australian College of General Practitioners' *Standards for General Practices* (Medicare Australia, 2007b). PIP payments are made in addition to normal payments to GPs, such as standard Medicare payments and patient payments. PIP payments provide incentives for a variety of practice areas, including information management, teaching and after-hours care, as well as targeted incentives, such as the Quality Prescribing Initiative (Medicare Australia, 2007b). In addition, a rural location loading is applied to total payments; this loading increases with practice remoteness.

Beyond incentive payments for the broader elements of quality practice, PIP also includes direct incentives (Service Incentive Payments [SIPs]) for specific chronic disease management activities performed by GPs for patients with diabetes or asthma. A SIP is also paid for undertaking cervical screening with unscreened or under-screened female patients. Numerous changes have been made to SIPs since the program began (Medicare Australia, 2007b), including discontinuing the mental health SIP (the 3-Step Mental Health Process items), which were replaced by the GP MHC items in November 2006 (discussed in more detail below) (Department of Health and Ageing, 2006e).

Currently, three main types of SIPs are made: initial payments; service incentive payments (per patient); and service outcome payments. The conditions for payment of each type for diabetes, asthma and cervical screening are summarised in Table 2.

³ All MBS item schedule fees referred to in this document are current as of the November 2007 Medicare Benefits Schedule. All Medicare statistics provided in this document were sourced from the Medicare Australia statistical website (http://www.medicareaustralia.gov.au/statistics/dyn_mbs/forms/mbs_tab4.shtml).

Table 2: PIP payment conditions for diabetes, asthma and cervical screening services by SIP type

Payment type	Diabetes	Asthma	Cervical screening
Initial	“Register payment” for notifying government that diabetes register and recall/reminder system is in use (once-off)	“Sign-on payment” for agreeing to provide data to government	“Sign-on payment” for agreeing to provide data to government
Service incentive	Payment for each cycle of care completed (payable once per year per patient)	Payment for each Asthma “3+ Visit Plan” completed (payable once per year per patient)	Payment for each cervical screening completed for females 20-69 who have not had a cervical smear in previous 4 years (payable per cervical smear completed)
Service outcome	Payment for completion of cycle of care for 20% of diabetic patients	None	Payment for achievement of screening target of 70% female patients aged 20-69 in last 30 months

In 2006-07, \$279.1 million was paid under PIP to general practices; a 6.6% increase from the previous financial year (Medicare Australia, 2007a). The individual service incentive payments during this period for GP and non-referred attendances were \$3.6 million for cervical screening, \$7.1 million for diabetes, \$0.9 million for asthma and \$1.1 million for mental health (the 3-step mental health incentives, phased out during the 2006-07 financial year).⁴

Chronic Disease Management Program

The CDM program was introduced in July 2005 as a replacement for the Enhanced Primary Care (EPC) program (Department of Health and Ageing, 2007c). The CDM items added to the MBS were more expansive than those of the EPC program, which were confined to patients with both chronic disease and complex needs. The CDM program introduced a GP-only care planning item (the GP Management Plan [GPMP]) in addition to the existing multidisciplinary team care arrangement (TCA) plan for patients with more complex needs requiring multidisciplinary care. The current major MBS CDM items for GP care planning and multidisciplinary care arrangements are described in Table 3.⁵

⁴ “GP and non-referred attendances” refers to the division between payments under MBS Professional Attendances Groups A18 and A19 for attendances associated with PIP payments.

⁵ The CDM program also includes an item for GPs contributing to a multidisciplinary care plan prepared by another provider (MBS item 729).

Table 3: Summary of features of MBS CDM items for GP care planning

MBS item	Description
GPMP preparation (MBS Item 721)	<ul style="list-style-type: none"> • Preparation of a management plan for a patient with chronic or terminal condition/s • Documents assessment of patient, setting of management goals, identification of action/s by patient, identification of treatment and ongoing services to be provided • GP may be assisted by a practice nurse • Recommended claiming frequency: two-yearly; minimum claiming period: 12 months • Schedule fee: \$127.70
TCA preparation (723)	<ul style="list-style-type: none"> • Preparation and coordination of team care arrangements for patients with chronic or terminal condition/s who also require care from a multidisciplinary team of at least three health or care providers • TCAs can be used in conjunction with GPMPs • GP may be assisted by a practice nurse • Recommended claiming frequency: two-yearly; minimum claiming period: 12 months • Schedule fee: \$101.15
GPMP review (725)	<ul style="list-style-type: none"> • Review of the patient's GPMP, documentation of any changes, setting of next review date • GP may be assisted by a practice nurse • Recommended claiming frequency: six-monthly; minimum claiming period: 3 months • Schedule fee: \$63.85
TCA review (727)	<ul style="list-style-type: none"> • Review of patient's TCA, collaboration with other providers on progress against treatment/services, documenting changes to TCA • GP may be assisted by a practice nurse • Recommended claiming frequency: six-monthly; minimum claiming period: 3 months • Schedule fee: \$63.85

For eligible patients requiring TCAs, the CDM program also provides for a maximum of five allied health services per 12-month period. Only certain allied health professionals in private practice and registered with Medicare Australia are eligible to provide allied health services under the CDM program.⁶ The GP provides allied health professionals with a referral which is valid for the stated number of services; the allied health professionals are required to provide a written report to the GP after the first and last service (or more often if required) (Department of Health and Ageing, 2007b).

The actual preparation and review of TCAs can include a wider range of health and care providers, including pharmacists, optometrists, home and community service providers and care organisers (e.g. "meals on wheels" providers, personal care workers); multidisciplinary team members must be contributing to the plan for the purposes of claiming the TCA items,

⁶ Eligible allied health professionals include: Aboriginal health workers, audiologists, chiropractors, diabetes educators, dieticians, exercise physiologists, mental health workers (which can include Aboriginal health workers, mental health nurses, occupational therapists, psychologists and some social workers), occupational therapists, osteopaths, physiotherapists, podiatrists, psychologists and speech pathologists.

and not simply providing a service identified in the plan (Department of Health and Ageing, 2006b).

Additional dental care is also provided under the CDM program, with the conditions changing from the provision of three dental services per 12-month period to a revised scheme where eligible patients can access up to \$4250 of Medicare benefits for dental services over two consecutive calendar years from November 2007 (Department of Health and Ageing, 2007d).

For the 12-month period of November 2006 to November 2007, the total cost of the MBS CDM items was \$235 million; preparation of GPMPs represented the highest single item expenditure of approximately \$95 million (Table 4). When the CDM program was initially announced in 2005, the original cost of the program was expected to be \$247 million over four years (Department of Health and Ageing, 2005a).

Table 4: Total benefits paid, and services/benefits paid per 100,000 population for MBS items under Medicare CDM program, November 2006 to November 2007

MBS item and description	Queensland			All states and territories		
	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid
GPMP preparation (721)	2,821	\$352,874	\$14,654,341	3,600	\$450,314	\$94,816,699
TCA preparation (723)	1,728	\$171,158	\$7,107,932	2,201	\$218,050	\$45,911,955
GPMP review (725)	1,626	\$101,729	\$4,224,651	2,253	\$140,967	\$29,681,529
TCA review (727)	509	\$31,876	\$1,323,777	728	\$45,558	\$9,592,453
All allied health items*	4,267	\$200,722	\$8,335,687	5,446	\$255,942	\$53,890,265
All dental care items [†]	18	\$1,782	\$74,006	48	\$5,805	\$1,222,375
Total	-	-	\$35,720,394	-	-	\$235,115,276

* Includes MBS allied health items for Aboriginal health workers (10950), diabetes educators (10951), audiologists (10952), exercise physiologists (10953), dieticians (10954), mental health workers (10956), occupational therapists (10958), physiotherapists (10960), podiatrists (10962), chiropractors (10964), osteopaths (10966), psychologists (10968) and speech pathologists (10970).

[†] Includes MBS dental health items for dental assessment and report (10975), dental treatment (10976) and further dental assessment (10977). After 1 November 2007, these items were replaced with new MBS dental items (85011-87777).

GP Mental Health Care Program

The GP MHC items were introduced under the *Better Access to Mental Health Care* program in November 2006, as replacements for the 3-Step Mental Health Process PIP items under the *Better Outcomes in Mental Health Care Program* (Department of Health and Ageing, 2006d).

The GP MHC items were designed to encourage early intervention, assessment and management of patients with mental disorders by GPs, in conjunction with psychiatrists, psychologists and other allied health professionals. The MBS item structure is similar in design to the CDM items in that it provides for the preparation of a structured care plan and its subsequent review.

In addition, a specific mental health consultation item has been added for GPs to provide patients diagnosed with mental disorders with extended consultations (at least 20 minutes). Notably, the use of the GP MHC consultation item can be used for the ongoing management of any patient where the primary treatment problem is in relation to a mental disorder; it is *not*

restricted to patients with a GP MHC plan nor are there any restrictions on how often the consultation item can be used.

The allied health items associated with the GP MHC program include the provision of psychological therapy services (by clinical psychologists) and focused psychological strategies (by psychologists, occupational therapists and social workers) on either an individual or group basis (Department of Health and Ageing, 2006f). Under the program, patients are able to access up to 12 individual and/or group allied mental health services per calendar year. Similar to the CDM program, the allied health professional must provide the referring GP with a written report after the first six services and/or on completion of the course of treatment.

In the first 12 months of the program (November 2006 to November 2007), the total cost of GP and allied health professional service items under the GP MHC program was approximately \$233.9 million (Table 5). An additional \$19.7 million was also paid in benefits for psychiatrist items associated with the GP MHC program over the same period.⁷ When the COAG *Better Access to Mental Health Care* program was initially announced, the new Medicare services under the program were estimated to cost \$538 million over five years (Department of Health and Ageing, 2006d).

Table 5: Total benefits paid, and services/benefits paid per 100,000 population for MBS items under Medicare GP MHC program, November 2006 to November 2007

MBS item and description	Queensland			All states and territories		
	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid
GP MHC plan preparation (2710)	2,078	\$312,141	\$12,962,755	2,359	\$354,417	\$74,624,783
GP MHC plan review (2712)	385	\$38,588	\$1,604,029	472	\$47,314	\$9,968,493
GP MHC consultation (2713)	1,732	\$114,807	\$4,767,746	1,966	\$130,366	\$27,449,397
Psychological therapy service items (clinical psychologists)*	1,022	\$114,342	\$4,748,441	2,078	\$232,764	\$49,010,002
Focused psychological strategy service items (all other providers) [†]	4,442	\$342,241	\$14,212,768	4,476	\$345,802	\$72,810,809
Total	-	-	\$38,295,739	-	-	\$233,863,484

* Includes individual and group psychological therapy service items provided by clinical psychologists (80000-80015).

† Includes individual and group focused psychological strategy service items provided by psychologists, occupational therapists and social workers (80100-80170).

⁷ Psychiatrist service items related to the GP MHC program include referred patient assessment and management plan (291), review of management plan (293) and for initial consultation with new patients at the consulting rooms (296), in hospitals (297) and at the patient's home (299).

Adult health checks and assessments

The MBS currently includes several broad adult health check/assessment items targeted towards the elderly (MBS Item # 700), Indigenous adults (MBS Item # 710), refugees (MBS Item # 714), and preventive care generally in the 45-49 year age bracket (MBS Item # 717). While considering a number of health issues (particularly the Indigenous and refugee health assessment programs), many aspects of these items are related to chronic disease prevention and management, particularly the 45-49 year old health check which (as an ABHI program) is designed to enhance capacity for preventive care and, where necessary, provide earlier intervention into the chronic disease process (Department of Health and Ageing, 2007a). Eligibility restrictions apply to all items; for the 45-49 year old health check, at least one risk factor for chronic disease must be identified. Advice and information is (where appropriate) provided in line with resources such as the *Lifescrpts* program (Department of Health and Ageing, 2007g).

Table 6: Total benefits paid, and services/benefits paid per 100,000 population for MBS items under Medicare adult health check and assessment items, November 2006 to November 2007

MBS item and description	Queensland			All states and territories		
	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid	Services/ 100,000 population	Benefit/ 100,000 population	Total benefits paid
75+ year old health assessment (700)	831	139,322	\$5,785,844	731	122,589	\$25,812,003
Indigenous adult health assessment (710)	106	21,241	\$882,101	72	14,318	\$3,014,837
Refugee health assessment (714)	19	3,875	\$160,924	28	5,632	\$1,185,777
45-49 year old health check (717)	635	63,602	\$2,641,315	663	66,380	\$13,976,808
Total	-	-	\$9,470,184	-	-	\$43,989,425

State-based programs and the Australian Better Health Initiative

Many state-based services and programs throughout Australia are relevant to the care of chronic diseases. In addition to hospital care, the states provide significant primary and community health services in parallel with Medicare-funded GPs and private allied health service providers. Considerable activity at the state level now surrounds the implementation of programs and strategies to integrate and coordinate the various types of Commonwealth, state and privately-funded health services to achieve better outcomes for chronic disease. Much state-based activity is also related to hospital demand management. Examples of state-based programs for chronic disease include:

- The Victorian Department of Human Services (DHS) is using the existing hospital and community health service platforms to provide an integrated model of chronic disease management based on the CCM (DHS, 2006). The major policy initiatives include the Hospital Admissions Risk Program (HARP) and the Early Intervention in Chronic Disease (EliCD) program; these are integrated to provide a stratified system based on patient need (the Kaiser Triangle), from highly-complex patients requiring intense case management services (HARP) to less-complex patients at risk of hospitalisation and

complications in the future (EliCD). At a local agency level, considerable effort is placed on the development and coordination of referral and liaison pathways with GPs and other allied health service providers to develop a model of care that incorporates the elements of the various Medicare (and community care) programs described here.

- Queensland Health has developed the *Queensland Strategy for Chronic Disease 2005-2015*, which includes strategies for supporting improvements in care coordination within and across the various types of services (Queensland Health, 2005). Activities include the formation of multidisciplinary chronic disease teams and models to coordinate and integrate care with the acute sector (the Community Hospital Interface Program [CHIP]) and to consolidate triage, referral pathways and care planning across primary health care providers.
- NSW Health has also adopted the stratified system; the *NSW Chronic Care Program Phase 3: 2006-2009* also outlines intense efforts to provide better coordination and integration of chronic disease management and the linkages required between the various types of service providers within the sector (NSW Health).

State-level activity in chronic disease management has been supplemented by the Commonwealth's Australian Better Health Initiative (ABHI), announced in 2006 (Department of Health and Ageing, 2006a). The aims of ABHI were to enhance Commonwealth, state and territory cooperation in the promotion of healthy lifestyles and chronic disease management. Prevention, early intervention, self-management and the integration and coordination of services for chronic disease are the major ABHI priorities, realised through joint funding and other cooperative programs between the Commonwealth and states. ABHI, as part of its fifth priority area (improving integration and coordination of care), recognises the general coordination problem that exists; many states have used ABHI funding to expand current program activities (such as those described above) that attempt to integrate the elements of the existing system.

Community care services

A variety of community care services must be considered in any discussion of comprehensive chronic disease management, as many complex chronic disease patients will require such services. The major community care service programs are the Home and Community Care (HACC) program, the Community Aged Care Packages (CACPs) program, the Extended Aged Care at Home (EACH) program, and the Veterans' Home Care (VHC) program (Department of Health and Ageing, 2005b, 2006c, 2007f; Department of Veterans' Affairs, 2007).

The types of services provided to eligible clients differ according to program and assessed need; individual clients may receive services under several programs. Generally, the types of community care services provided include assessment, case management and planning, nursing and other allied health care, meals and other food services, domestic assistance, personal care, home modification/maintenance, transport, counselling, support, and information and advocacy services. Respite care is also provided.

Community care services are directed to specific target populations. The HACC program target group is defined broadly as people living within the community at risk (without these services) of premature or inappropriate long-term residential care. Thus, both older people as well as younger people with disabilities are provided with community care services under

HACC; approximately 12% of HACC service recipients are aged less than 50 years (Productivity Commission, 2007).

The HACC program is jointly funded by the Commonwealth and states/territories, and thus there is some variation in services from state to state. The program is supplemented by ‘top-up’ arrangements (e.g. Community Options Packages in some states) that provide supplemental services such as case management for HACC recipients with complex needs.

CACP and EACH programs mandate a client assessment by an Aged Care Assessment Team (ACAT) as requiring home care equivalent to either low-level residential care (CACP) or high-level residential care (EACH). The VHC program is administered by the Department of Veterans’ Affairs (DVA) for eligible veterans and war widows/widowers. Each of these programs is funded exclusively by the Commonwealth; the range of services provided under these programs is more limited than the HACC program generally.

In 2005-06, the total Commonwealth funding for HACC was \$857.8 million (an additional \$551.1 million being provided by the states and territories); \$356.6 million was provided for CACP and \$66.5 million for EACH (including EACH Dementia) programs (Productivity Commission, 2007). DVA funding for the VHC program totalled \$91.4 million during the same period (not including respite care expenditure).

Interaction between current programs

Given the complex nature of each of the above programs on an individual basis, it is unsurprising that the practical interaction between the current arrangements is also complex. The day-to-day usage of Medicare items from each program is subject to numerous conditions and restrictions, with both complementary and incompatible processes in place, as well as acknowledged overlap between programs. The following discusses various claiming restrictions and other considerations that must be borne in mind by individual GPs when providing care for chronic disease patients using these programs.

CDM items and SIPs

The Department of Health and Ageing (DoHA) CDM program guide states that the CDM items themselves are viewed as offering GPs “additional and alternative funding mechanisms to the SIPs for providing best practice care of patients with chronic conditions, including patients with asthma and diabetes” (Department of Health and Ageing, 2006b). One of the stated advantages of the CDM items over the SIP items is that they are available to all general practices, not just those practices involved in PIP/SIP.

A complex interaction exists between the CDM items and the SIP items, according to the condition in question (Department of Health and Ageing, 2006b):

- Where a patient’s only chronic disease is asthma, it is not considered appropriate to claim both a GPMP and SIP asthma item within a 12-month period of each other, due to the overlapping requirements of the SIP asthma item and the GPMP preparation item (in that both require planning and assessment activities). The two types of items can be claimed where a patient has asthma and another chronic disease. A three-month restriction exists between claims for a GPMP review and an asthma SIP item.

- Where the patient's chronic disease is diabetes, items from the two programs can be claimed for the care of the same chronic disease. The diabetes SIP item does not include requirements for care planning; rather, it is focused on the provision of best practice care over the preceding 12-month period, thus an additional GPMP preparation claim can be made for care planning. However, a restriction between the diabetes SIP and claims for GPMP reviews does exist, since there is overlap between the review activities involved in each. It is suggested that, after the completion of an annual cycle of diabetes care, GPs should choose between claiming either the diabetes SIP or the GPMP review item; however, GPs are able to claim both items provided they are claimed three months apart from each other.
- For more complex patients where TCAs are appropriate (and the complexity of the need is not addressed by the SIP alone), claims for GPMP and TCA preparation are compatible with SIP items for both conditions, but the GPMP/TCA review items and the SIPs for diabetes or asthma cannot be claimed within the same three-month period.

GP MHC items and CDM/SIP items

The introduction of the GP MHC program in November 2006 directly modified the PIP program (as the existing mental health SIPs were phased out in favour of the new program), but did not directly alter the CDM program. It is considered that patients with mental disorders alone requiring care planning are now more appropriately managed under the GP MHC program, rather than having care plans prepared and reviewed using the CDM items. Thus, for patients with mental disorders as the sole chronic condition, the use of the specific GP MHC planning, review and GP consultation items (as well as the greater number of allied health referrals than in the CDM program) would be the preferred option over the CDM items (using standard consultations and fewer allied health referrals).

For patients with a mental disorder and other chronic disease/s, it is possible for GPs to prepare both a GPMP (for the other chronic disease/s) and a GP MHC plan (for the mental disorder). For more complex patients with a mental disorder and other chronic disease/s, it is also possible for GPMP, TCA and GP MHC plans to be created, and for referrals to allied health professionals to be made under both the TCA and GP MHC plan arrangements. For the five allied health services provided under a TCA, it is still possible for these to include mental health services (e.g. psychologists, mental health workers) within the TCA package, in addition to the 12 allied mental health services provided under a GP MHC arrangement.

The DoHA program advice for the GP MHC items states that in all the combinations above, the GP "should consider whether it is necessary to develop two separate care plans. As a general principle the creation of multiple plans should be avoided, unless the patient clearly requires an additional plan for the management of a separate medical condition" (Department of Health and Ageing, 2007e).

With the phasing out of the mental health SIP items, no specific restrictions exist between the GP MHC program and the current SIP items for diabetes and asthma.

Community care services and Medicare chronic disease programs

There is no direct relation between TCA items and community care services in terms of direct referral and payment for services as there is for the specified allied health MBS items associated with the TCA process. Only an indirect link exists in that community care service

providers or care coordinators can potentially be contributors to TCA preparation and reviews for patients. Similarly, no direct linkage is made with the GP MHC program and community services; a vague reference is made in the GP MHC plan preparation item descriptor to discussion with the patient about “appropriate support services” as a minimum requirement.

State-funded programs, Medicare and community care services

As alluded to earlier, individual state initiatives for chronic disease management place considerable emphasis on care coordination across various providers within the primary health care sector, and thus represent significant efforts in the integration of cross-jurisdictional health systems.

Drawing upon the EIiCD experience in Victoria, local community health agencies expend considerable time and energy in creating referral and liaison pathways with GPs and other private health providers, local hospitals and other community-based support services. One of the common strategies at the local program level is to incorporate the various elements of the CDM, GP MHC and community care programs (as appropriate) to enable GPs to devote the time necessary to coordinate services. While community health program staff are able to contribute to the development of TCAs, allied health staff working in state-funded agencies cannot provide the TCA services paid for by Medicare. Community care service providers are in a similar position in that they are able to contribute, but there are no direct program links involved.

Additionally, the Medicare CDM, SIP and GP MHC items have been designed to minimise the potential for cost shifting between the Commonwealth and the states. As a result there are administrative restrictions that exclude MBS claims by allied health practitioners employed by state agencies. This leads to discontinuity in care for people with chronic disease, particularly where they are unable to afford co-payments which are common in the private allied health sector.

CCM, quality and current Medicare programs

The previous section described the six elements of the CCM and its basis in evidence-based best practice for chronic disease management, and the importance of quality incentives in the realisation of the CCM. The following discussion critiques the current organisation of chronic disease prevention and management programs in Australia from the standpoints of the CCM and quality incentives.

CCM elements and current Medicare programs

Health care organisation

Under the CCM, organisation of the health system must be such that it promotes safe, high quality chronic disease care, overcoming the “tyranny of the urgent” and making chronic disease care a priority. CCM requires ongoing care which is well coordinated across providers and puts a heavy emphasis on self-management for the prevention and management of chronic conditions between consumers and providers. Health care organisations should align incentives and care coordination across providers to ensure these conditions are met. The organisation of Medicare, through the various programs described here, is moving towards a system more appropriately geared towards chronic disease care; however, it

continues to have a heavy emphasis on episodic care and there are significant administrative discontinuities within Medicare and between Medicare and other programs.

The current organisation of the CDM and GP MHC programs remain heavily focused on item-based care for chronic disease management. As an example, the GP MHC program (planning and consultation items) do provide for both a planned approach to care as well as for longer (and more appropriate) consultations with GPs. However, the GP MHC consultation items can be accessed without the need for care planning under the program, and thus may be in danger of being used in a reactive (rather than planned) manner, typical of the more urgent FFS approach. The CDM program does not include an accompanying “chronic disease” consultation item activated by a GPMP, and relies solely on standard GP consultation items.

Incentives for good quality of care are integral to CCM. As discussed in greater detail below, the current Medicare programs (particularly the SIPs) provide a structured payment for meeting best practice recommendations (in the case of diabetes), as well as broader promotion of quality chronic disease management through care planning. However, the current financial incentives are limited to the quality of care *processes*, rather than the quality of care *outcomes*.

The HACC, CACP and EACH programs potentially have significant links to the Medicare CDM and GP MHC programs for people with chronic diseases with additional needs, but these community care service programs are budget capped, adopt different assessment and care planning methods and have a completely different funding and payment system. GPs have little direct role in accessing or coordinating care in these programs.

Similarly, state-based programs for chronic disease prevention and management and hospital demand management have many of the same aims and methods as the Medicare CDM and GP MHC programs. Again, these programs adopt different assessment, care planning, service coordination and payment models from those adopted in Medicare.

Programs designed to address the burgeoning problem of chronic disease prevention and management have grown in isolation from one another. As a result, there are program variations in IM/IT requirements, organisation and accountability, and service planning and development.

Self-management support

The provision of chronic disease care requires that the role of the patient be shifted from passive to active involvement in their own care. This includes involving patients in goal setting and planning, education activities and actions to improve their own health.

The self-management support element of the CCM is present at various points within the current Medicare programs. Examples include:

- The MBS item descriptor indicates that the preparation of a GPMP must include “agreeing management goals with the patient for the changes to be achieved by the

treatment and services offered in the plan” and “identifying any actions to be taken by the patient”.⁸

- The diabetes SIP item includes the provision of self-care education regarding diabetes management as one of the minimum requirements of the diabetes cycle of care.⁹
- The asthma SIP item includes both the “provision of asthma self-management education to the patient” and the “provision to the patient of a written asthma action plan” as part of the minimum requirements of the asthma cycle of care.¹⁰
- The preparation of a GP MHC plan must include discussions with the patient about diagnosis, assessment, referral and treatment options, as well as “agreeing goals with the patient” and “any actions the patient will take” as part of the requirements of the plan.

Decision support

Decision support requires the integration of evidence-based guidelines into everyday clinical practice to support optimal chronic care. The most obvious example of this in the various Medicare chronic disease programs is that of the diabetes SIP item, which incorporates evidence-based best practice guidelines into the MBS item descriptor in the form of the minimum requirements of the diabetes cycle of care. These include measures of HbA1c, blood pressure, lipids, microalbuminuria and weight, appropriate eye and feet examinations and reviews of diet, smoking, medications and physical activity level.

However, the incorporation of decision support in this manner is not entirely effective, as it is only applicable where the diabetes SIP is claimed as part of the treatment of the patient, and thus does not provide evidence-based guideline support to the care of diabetic patients more broadly.

Delivery system design

Optimal delivery system design for chronic disease care requires a planned approach to chronic disease care, including a multidisciplinary approach to care, clinical case management services for complex clients, and follow-up. The current Medicare programs provide the beginning of a more appropriately designed delivery system in the following ways:

- A planned approach to care is implicit in the various care plan preparation items; however, the proliferation of programs has resulted in a somewhat disjointed system of care planning for patients with chronic disease/s and mental disorder/s. The lack of requirement for care planning for the GP MHC consultation item is not entirely in accord with this element of the CCM.
- The notion of follow-up is also implicit in the review items under each program, but varying in the degree to which they are required. Under the CDM and GP MHC programs, the review item is free-standing and can be subsumed by the preparation of an entirely new plan under each program (for which the current system pays more under both programs). The asthma SIP item differs from this in that a “review consultation”

⁸ MBS (Nov 2007) Item # 721 explanatory notes; see <http://www9.health.gov.au/mbs/fullDisplay.cfm?type=note&qt=NoteID&q=A.30>.

⁹ MBS (Nov 2007) Item # 2517 descriptor; see <http://www9.health.gov.au/mbs/search.cfm?q=2517&sopt=S>.

¹⁰ MBS (Nov 2007) Item # 2546 descriptor; see <http://www9.health.gov.au/mbs/search.cfm?q=2546&sopt=S>.

(which was planned at a previous consultation) forms a part of the minimum requirements for payment of the incentive.

- TCAs allow for the coordination of a team to provide the patient with appropriate multidisciplinary care with access to Medicare rebates for allied health services. This is also in accord with a more planned approach to care. Coordination rests with GPs, and allied health professionals are required to provide written reports regarding the patient's treatment to the GP under the program. Similarly, the GP MHC program also incorporates a reporting requirement with allied health referrals. The GP MHC program has arguably introduced some disparity into the system in terms of access to allied health services; under the CDM program, complex patients can normally only access five services per calendar year for treatment of their chronic disease/s overall, but GP MHC patients are all able to access up to 12 allied health services for their mental disorder/s.

Clinical information systems

Optimal chronic disease care requires the support of appropriate information technology and management systems. The PIP has promoted considerable improvement in this area through the broader IM/IT incentives under the program, and the diabetes payment incorporates an incentive payment for the maintenance of a register of diabetic patients. Scope exists for the review items under the various Medicare programs to be triggered in a planned fashion via recall and reminder systems. However, there is little integration of IM/IT across the primary and community care system or between the primary and community care system and the acute and sub-acute care systems.

Community resources and policies

In order for health care providers to achieve optimal chronic disease care, it is necessary to develop linkages with community organisations and support services. While the CDM and GP MHC programs have provided the means for expanded linkages with other health professionals, linkages with community services are comparatively underdeveloped. The TCA items give other home and community service providers an opportunity to contribute to the plan for overall patient care, but no direct linkages (in the form of payment) are made. The lack of linkages does not encourage the seamless delivery of services across Medicare-funded services (GPs and allied health professionals in private practice), state-funded services (e.g. community health services) and community care programs (e.g. HACC).

Summary of CCM elements and current Medicare programs

The current Medicare programs for chronic disease management contain many features that are broadly consistent with the elements of the CCM and provide the means to encourage best practice. There are, however, numerous systemic shortcomings that either detract from the CCM, or are in direct opposition with it. This is most notably in terms of linkages with community resources, where Medicare's exclusive orientation towards GPs (and allied health professionals to a lesser extent) does not properly integrate with other health and social services that chronic disease patients, particularly those with more complex needs, may require.

In practical terms, the inherent complexity of how the various Medicare programs interact with each other also detracts from the broader re-alignment of the health system towards the

CCM. The tools provided to GPs and health professionals may be available, but their use remains complex.

Direct quality incentives and Medicare programs

The Medicare programs described above provide a number of incentives for the provision of quality chronic disease care, in line with the CCM. However, in comparison to other health systems, these incentives are based solely on the attainment of process, rather than on process *and* outcome. The most prominent examples of process-based quality incentives under current Medicare programs are the SIPs for both asthma and diabetes (providing incentives for adherence to evidence-based best practice in the process of care for these diseases) and the care planning and review items (as a general process of care).

Some measures of outcomes achievable in primary health care have been used as the basis for payment for chronic disease management. Since 2004, the UK National Health Service (NHS) has used both process and outcome measures as the basis for its QOF P4P system. The following discusses the major features (and limitations) of the QOF and the simple outcome measures it employs.

International practice: the UK Quality Outcomes Framework

The QOF was introduced in the UK in 2004 as part of the new General Medical Services (GMS) contract with GPs, the major mechanism under which GPs deliver (and are paid for) primary health care in the UK. The QOF is a fundamental but voluntary component of the GMS that measures practice achievement against numerous indicators using a system of points that are later converted to payment. Similar to PIP, QOF points are awarded across a variety of broad areas (e.g. practice management, records and information) as well as for the care of specific diseases. The evidence-based indicators used to develop the disease-specific clinical indicators are premised on the notion that if general practices meet these standards, they will be providing high quality care for their patients.

QOF incorporates a far larger number of chronic disease states than the PIP program,¹¹ and also other measures of service achievement such as patient experience surveys. Points (and payments) are made on a practice, rather than individual practitioner basis, and disease-specific payments are adjusted according to disease prevalence within the practice, such that those practices with a high prevalence of a given condition receive greater payment per point associated with that disease.

One of the most significant limitations of the QOF, identified from the outset of the program and which continues to be an issue, is the “cream skimming” effect where complex patients who are likely to reduce the percentage of attainment of the various clinical thresholds are excluded (Doran et al., 2006; Epstein, 2006). An analysis of QOF scores overall has also shown little association between “payment quality” (payment based on scores allowing for the exclusion of patients) and deprivation, but have shown that “delivered quality” (indicator scores based on care delivered to all patients without exclusions) falls with increasing deprivation. The study concluded that the exception system succeeds in not penalising

¹¹ The QOF (revised version) includes indicators sets for the following conditions, clinical scenarios or risk factors: asthma, atrial fibrillation, cancer, chronic kidney disease, chronic obstructive pulmonary disease, coronary heart disease, dementia, depression, diabetes, epilepsy, heart failure, hypertension, hypothyroidism, learning disabilities, mental health, obesity, palliative care, stroke, smoking and transient ischaemic attacks.

practices financially for the deprivation of the population it serves, but does not reward the additional work required in these areas, and may thus perpetuate the inverse care law (McLean, Sutton, & Guthrie, 2006).

Another study has shown a similar pattern (Sigfrid, Turner, Crook, & Ray, 2006), but other research has shown that practices in deprived areas score fewer points overall even after exclusions and that a complex relationship exists between points achieved and rurality (Wright, Martin, Cockings, & Polack, 2006). The cream-skimming limitation is also a significant confounder in studying the relationship between QOF attainment and health outcomes; one recent study found that the relationship between QOF scores and emergency admissions and mortality was small and inconsistent, while socioeconomic deprivation showed a stronger relationship with these outcomes (Downing et al., 2007).

Specific QOF indicators using outcomes

QOF contains an extensive suite of process-based quality of care indicators for a variety of chronic disease states. A small number of simple outcome-based indicators have also been included in the QOF to incentivise the attainment of clinically-relevant targets for blood pressure, HbA1c and cholesterol levels. These measures have been included (as clinically appropriate) in the QOF indicators for coronary heart disease, stroke/transient ischaemic attacks, diabetes and chronic kidney disease.

QOF diabetes indicators demonstrate how these outcome indicators are used in conjunction with the accompanying process indicators to allocate points. Using the example of HbA1c in diabetes, points are allocated for the process of measurement (e.g. the percentage of diabetic patients with a HbA1c level tested and recorded) as well as the outcome of measurement (e.g. the percentage of diabetic patients with a HbA1c level within a target range). Similar process-based indicators are included in the Medicare diabetes SIP item, but the outcome element is not. Appendix I provides a detailed comparison of the QOF diabetes indicators with the requirements of the Australian diabetes SIP item, followed by a comparison of the process-based indicators for asthma and mental health under both systems.

Summary of quality incentives and Medicare

While achievement in the processes of chronic disease care is incentivised by the Medicare programs considered here, the achievement of outcomes is not yet linked to payment. Considerable underlying similarity is evident in the UK and Australian systems with regard to process-based measures of quality of care, but QOF includes additional (and simple) outcome measures to provide further incentive for high quality care. Using QOF as a template, simple outcome measures could be used to further develop the available quality incentives; however, considerable examination of the working reality of QOF and its particular limitations is required.

Summary of current programs and issues

The need to address chronic disease prevention and management has been widely recognised in Commonwealth and state programs. The Commonwealth response has been to adapt the Medicare program through the introduction of a series of new MBS items and programs that provide payments for particular chronic disease-related activities. The states have initiated a

set of strategies to better manage hospital demand and to coordinate the existing primary health and community care services.

Substantial Commonwealth funding is now allocated to the various chronic disease management programs discussed here. Approximately \$750 million per annum is spent on the Medicare PIP, CDM and GP MHC programs, with \$1.3 billion per annum representing the Commonwealth expenditure on community care services. This is in addition to expenditure on general Medicare services (e.g. standard consultations) and other Commonwealth health programs, such as the Pharmaceutical Benefits Scheme.

As indicated above, this analysis suggests that the principles which have driven current Commonwealth programs are broadly consistent with the best practice models of chronic disease care. However, implementation of the resulting programs has led to an overly complex and fragmented system, with occasionally contradictory program and funding rules. In general, assessment does not link well to the care planning process, which itself is subject to different approaches in different programs. There are few incentives (or requirements) for care planning to be more comprehensive and to provide the coordinated services across the health and social services sectors. There is currently no incentive for providers to focus on improvements in clinical outcomes for patients.

The Commonwealth's current strategy over-emphasises the use of individual Medicare service items for the prevention and management of chronic illness. This results in a highly restrictive and complex set of administrative rules for service delivery that work against integrated prevention and care for people with chronic diseases. The use of individual items reflects this, with the use of the CDM GPMP preparation item vastly exceeding the number of GPMP reviews—unsurprising given that a new plan can be prepared without the need for a review of the previous GPMP. The payment disparity that exists between care plan preparation and review items under the Medicare programs, and their complicated relationship with SIP items, results in a perverse incentive to regularly prepare care plans for patients without review or consideration of the underlying processes or outcomes associated with those previous plans.

At the same time, the states—faced with increasing numbers of hospital admissions for chronic conditions that should have been avoided through better prevention and management in the primary care system—have introduced their own set of programs to coordinate primary health and community care services. There is significant variation across the states, but many of these programs focus on the development of primary care networks, systems development for referral, care coordination and communication between providers and the management of hospital demand. Thus, there is considerable overlap between these state-based systems innovations and the role of Commonwealth-funded Divisions of General Practice.

At a patient level, the problems in the system are the most pronounced. The current system does not provide a single point of entry, and for patients most in need (e.g. the elderly, those with multiple chronic diseases, those with additional social service needs) the service system is even more fractured. Care planning and coordination could conceivably rest with a GP, a HACC case manager, a state-based health system worker, or all of these at once. Multiple managers for individual patients may result in a number of undesirable outcomes, such as:

- Provision of inconsistent information to patients
- Duplication of assessment, planning and possibly even services provided to patients

- Gaps within service provision and the potential for errors or omissions in care.

Given the complexity of the system and its use, it is conceivable that some patients may not be receiving any benefits from the Medicare programs described due to an (understandable) unwillingness of their GP to engage with such a system, and thus reverting to the conventional “acute” approach. Overall, the structure of the system is such that patient experience of the system and health outcomes will likely be sub-optimal for many.

3. System and funding reform options

Reform of the primary health care sector will require substantial discussion and commitment at federal, state and local levels of government, with the Commonwealth Government at the forefront due to its substantial existing commitment in the area. The Commonwealth would be the most logical level of government to take overall responsibility for chronic disease management in the primary health care sector.

This section will outline possible options for system and funding reforms—both incremental and structural—that the Commonwealth could undertake, using the current Medicare and community care programs as the substantive base. The ultimate goal of any reforms in this area should be to move towards a more harmonised (and straightforward) system in which GPs, allied health and social services professionals can provide high-quality chronic disease management in an integrated fashion consistent with the CCM.

Incremental reform options

Incremental reforms to the current Medicare programs for chronic disease prevention and management could be pursued to better align these programs with established best practice. In particular, incremental reforms could introduce a greater focus on patient outcomes and more capacity for care coordination in general practice settings.

Outcomes-based P4P

Currently, Medicare includes payments for adherence with good practice for chronic disease management but not for achieving clinical outcomes. Using the UK QOF model as a template, it would be possible to incorporate an element of P4P into the SIP for diabetes care. As shown in Appendix I, the QOF indicators incorporate similar process criteria for HbA1c, blood pressure and lipid measurements as the existing Service Incentives Payment (SIP) scheme, but QOF provides additional outcome criteria to reward chronic disease care that achieves quality outcomes for patients. In the example of diabetes, the QOF indicators that could be adapted for use in the SIP are:¹²

- DM-20: percentage of patients with diabetes in whom the last HbA1c is 7.5% or less in the previous 15 months
- DM-7: percentage of patients with diabetes in whom the last HbA1c is 10.0% or less in the previous 15 months
- DM-12: percentage of patients with diabetes in whom the last blood pressure measurement is 145/85 mmHg or less
- DM-17: percentage of patients with diabetes whose last measured total cholesterol is 5.0 mmol/L or less in the previous 15 months.

The payment mechanism to support this could be modelled on the existing service outcome payment made under the SIP for practices that provide an annual cycle of care to at least 20%

¹² See Appendix I. The full suite of QOF indicators are available at:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_4078659.pdf

of diabetic patients. Using this as the payment template, this reform would create a bonus payment for practices that achieve high-quality outcomes for diabetic patients.

While not, strictly speaking, a minor modification, the SIP program could be extended to include additional disease states as per those covered by the QOF; for example, a coronary heart disease SIP modelled on the relevant QOF process and outcome indicators.

MBS-funded service coordination

As described in the previous section, there has been a growth in state-funded chronic disease management programs to coordinate and integrate care across providers. The Medicare programs discussed here are, to a limited extent, also attempting to provide some mechanism for service coordination in the form of the Team Care Arrangements (TCAs). In theory, TCAs facilitate a coordinated approach to multidisciplinary care; however, they focus on the coordination of individual (largely private) practitioners, rather than service delivery agencies.

In many instances, service and care coordination will require more ongoing efforts than the planning of a TCA, and highly-complex patients will require case management not currently provided for under the Medicare program. The CDM program, in its current form, receives considerable support from practice nurses in a largely unacknowledged capacity. More intense coordination of services and the general execution of care plans and TCAs may require additional service coordination time from practice nurses, which is not currently “billable” to Medicare.

Again, using recent UK reforms as a guide, it is possible to construct a more defined role for practice nurses akin to the NHS “community matron” program in which responsibility is taken to ensure that health and social care needs are met (Murphy, 2004; UK Department of Health, 2007). Such a role could be created within the current Medicare programs for patients with TCAs in place, where, in addition to the allied health items available, extra services are available from practice nurses to assist with the coordination of health and social services for the patient under the TCA where it is necessary.

A significant difficulty with such a reform at the Commonwealth level—reflective of the current jurisdictional issues in chronic disease management—is the potential for this reform option to duplicate coordination arrangements put in place through state-based primary and community care (including community aged care) and hospital demand management programs. In the event that an additional care coordination function was introduced into the Medicare program, a payment model for this role would need to be developed. For example, payments could be made for care coordination for individual patients or for an agreed coordination load within a practice.

Structural reform options

Incremental reforms will not address underlying structural problems with current Medicare, community care and state-based hospital demand management and primary health care programs for the prevention and management of chronic disease. These existing programs have similar aims and functions but significant operational differences; this has resulted in overlapping Commonwealth and state programs with divergent funding, regulatory, governance, management and accountability arrangements that lead to duplication, fragmentation and discontinuity across programs, agencies and individual practitioners.

Without structural reform, people with chronic disease or those at risk of chronic disease will continue to experience poor quality care and suboptimal clinical outcomes, and practitioners will continue finding the navigation across programs and providers frustrating, complex and confusing. Structural reform to bring relevant Commonwealth and state programs together into an integrated framework for the prevention and management of chronic disease is needed.

The proposals advanced in the next section are designed to build on and re-organise arrangements already in place across Commonwealth and state programs. In particular, fundamental change to the general funding, payment and regulatory arrangements for the Commonwealth Medical Benefits Schedule and the Pharmaceutical Benefits Scheme are not proposed. Nor do these proposals prescribe particular organisational arrangements for the delivery of services. These proposals are compatible with both private and public provision of health services and are flexible enough to incorporate different organisational and governance models for primary health and community care services across jurisdictions and regions.

An integrated Medicare chronic disease management program

In creating a more integrated approach to chronic disease prevention and management, many elements of the existing system can be utilised and re-aligned into a simpler, more effective program.

It is recommended that a Medicare Chronic Disease Program (CDP) be established. The Medicare CDP should focus on providing integrated assessment, care planning and coordination for medical, nursing, allied health, psychological, personal and social support services for people with chronic disease living in the community. Current Medicare chronic disease management and mental health programs, home and community care services, community aged care packages and enhanced aged care at home, and state-based chronic disease and hospital demand management services, should be re-aligned into the Medicare CDP program.

A re-aligned Medicare CDP should be consistent with currently understood best practice, as outlined above. More specifically, the effective organisation of the system of chronic disease prevention and management should facilitate the following elements that make up best practice:

- A consistent, simple pathway to access services for chronic illness prevention and management based on an assessment of medical, nursing, allied health, psychological and social support needs.
- Integrated multidisciplinary team-based care that is effectively coordinated across practitioners, service types and provider agencies.
- A focus on partnerships between patients and health practitioners which facilitate patient self-management.
- Organisational, regulatory and payment models that provide incentives for best practice and the optimisation of patient experience and outcomes.

The following sections outline the re-alignment of existing program arrangements proposed to achieve an integrated model of care.

Eligibility and access

A consistent, simple pathway to access services for chronic disease prevention and management based on an assessment of medical, nursing, allied health, psychological and social support needs should be established. Eligibility for access to the Medicare CDP services should be determined by GPs or other appropriately qualified health professionals on the basis of a standardised assessment process.¹³

The assessment process should consider risk factors, co-morbidities, and existing disease severity to determine the need for medical, nursing, allied health, psychological and social services. The presence of established chronic disease or risk factors that are likely to lead to chronic disease should be the main criteria determining eligibility for Medicare CDP. To ensure ease of use by practitioners and access by patients, the standardised assessment process and its outcomes should be ‘interchangeable’ between assessors (e.g. GPs, hospital medical officers discharging patients) and (where appropriate) incorporate aged care/disability assessment processes.

Patients who meet specified risk levels or who have established disease and who agree to participate should be eligible for entry into the Medicare CDP. Participation would provide patients with access to an enhanced range of nursing, allied health, psychological and social support services through a participating Medicare CDP service provider. Those who choose not to participate in the Medicare CDP would continue to have access to the normal Medicare program.

While patient assessment is an essential component of clinical practice, the use of a standardised chronic disease assessment pathway is not currently a feature of existing Medicare program items. Chronic disease assessment is currently defined by the major chronic disease-related Medicare items in the following ways:

- *GPMP preparation* – assessment is defined as a minimum requirement “to identify and/or confirm all of the patient’s health care needs, problems and relevant conditions”.¹⁴
- *GP MHC plan preparation* – for mental health care planning, the requirements of assessment are more defined. The assessment must include: recording the patient’s agreement to participate; taking a relevant history; conducting a mental state examination; assessing associated risk and co-morbidity; making a diagnosis and/or formulation and the administration of an outcome measurement tool.¹⁵

Several existing tools could be used/adapted for the development of a standardised assessment, most notably the existing *GP Lifescripts* program (based on RACGP guidelines), which includes standard tools for GPs to assess smoking, nutrition, alcohol, physical activity and weight-related risks (Department of Health and Ageing, 2007g). More sophisticated risk-calculators for specific diseases (such as those for cardiovascular disease and diabetes) are also available.

¹³ This could include other medical practitioners involved in the patient’s care (e.g. hospital staff) or practice nurses.

¹⁴ MBS (Nov 2007) Item # 721 descriptor; see <http://www9.health.gov.au/mbs/search.cfm?q=721&sopt=S>.

¹⁵ MBS (Nov 2007) Item # 2710 descriptor; see <http://www9.health.gov.au/mbs/search.cfm?q=2710&sopt=S>.

The assessment pathway should include a two-step process. In step one, initial eligibility for the Medicare CDP would be determined on the basis of a risk screening tool or the presence of established disease. Where eligibility has been determined and participation in Medicare CDP has been agreed, a more detailed assessment to determine the level of service required should be conducted (step two). For those with established disease needs, a more comprehensive assessment of health care and functional needs should be conducted to determine the level of service required (see below). A range of assessment tools could be adapted for this purpose, including the Aged Care Funding Instrument (Department of Health and Ageing, 2007h) and the InterRAI scales (InterRAI, 2007).

Notwithstanding the outcomes of the standardised assessment process, GPs and other appropriately qualified practitioners should be able to authorise access to Medicare CDP on the basis of clinical judgment, with written justification where their decision is inconsistent with the outcomes of standardised assessment.

GPs and other qualified providers would be reimbursed for assessment through an MBS chronic disease assessment item. Actual remuneration levels for the item would depend on the complexity of the eligibility assessment provided. The normal MBS peer review approach would apply to safeguard this process against over-servicing.

Determination of level of need

Based on the outcome of the assessment, eligible patients would be assigned to a “level of care” that best reflects the medical, allied health, mental health and social services necessary for appropriate management by the assessing medical practitioner. This step would be analogous to (but more comprehensive than) the current option that GPs have with preparing TCAs for more complex patients requiring multidisciplinary care. Figure 2 provides a diagrammatic representation of the process for assignment to the various levels of care following assessment. Broadly, the assignment categories are as follows:

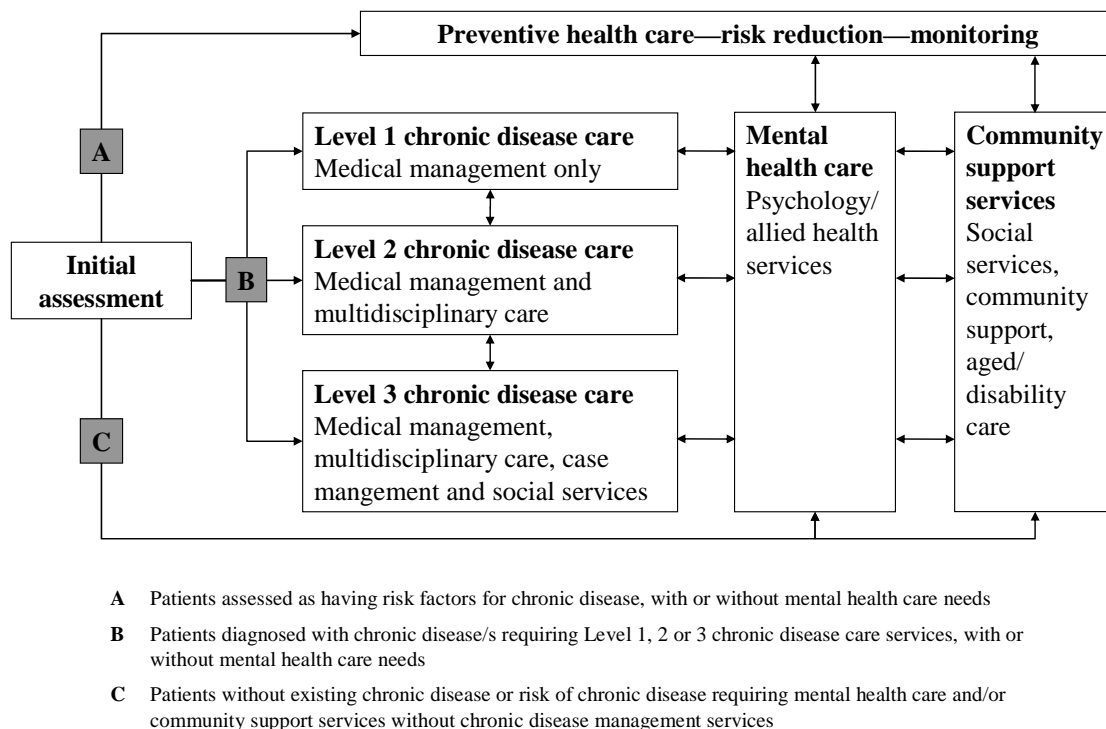
- *Preventive health care* – patients assessed as being at risk of chronic disease (e.g. with two or more risk factors). Following the initial assessment by the GP, patients are referred to appropriate risk reduction strategies (e.g. Quit smoking or weight reduction programs). While not age-specific, this category of care would broadly equate with the current Medicare 45-year-old health check program and its outcomes.¹⁶
- *Chronic disease care* – patients with established chronic disease are assessed for the complexity of their condition/s and care needs and triaged into the appropriate level of care. Each level of care is linked to an appropriate service package; the mental health service package (if appropriate) is in combination with any level of care (see below). The levels of care are broadly defined as:
 - *Level 1* – medical management only: for example, patients with a chronic disease and some risk factors, who present an uncomplicated clinical picture from a medical and psychosocial standpoint. This would broadly equate to care provided under the current Medicare GPMP.
 - *Level 2* – medical management plus multidisciplinary care: for example, patients with multiple chronic diseases and/or severe disease with numerous risk factors, who present a more complex clinical picture that requires the

¹⁶ MBS (Nov 2007) Item # 717 explanatory notes; see <http://www9.health.gov.au/mbs/fullDisplay.cfm?type=note&qt=NoteID&q=A.28>.

involvement of other health professionals to provide multidisciplinary care. This would broadly equate to the care provided under the current Medicare TCA.

- *Level 3* – medical management, multidisciplinary care, case management and social services. This level of care would be reserved for those patients who, in addition to meeting the criteria for Level 2 care, have social care needs requiring more intensive support and case management beyond that which GPs and allied health professionals can provide. Social care needs coordinated with chronic disease needs would include community care services such as those under the HACC, CACP and EACH programs.
- *Mental health care* – patients assessed as requiring mental health care services would be provided with the mental health care service package, which would broadly equate to the current Medicare GP MHC extended consultation item (MBS Item # 2713) and allied mental health referral system. Care planning under this current program would not be specific to mental health and be integrated with the overall care planning process. Reflective of the original intent of the current GP MHC program, and the needs of mental health patients generally, this service package would operate *in addition to* the levels of care for chronic disease or the preventive health care stream, to ensure that mental health does not operate “outside” chronic disease management. Where a GP diagnoses a patient as having a mental disorder but the patient does not have established chronic disease (or risk factors for chronic disease), the assessment is linked to the mental health care service package alone.
- *Community support services*: similar to the proposed mental health care arrangements, where patients are assessed by their GP to not have established chronic disease (or risk factors for disease), but still require community support services (e.g. aged or disability care), the program’s pathway accommodates for these requirements, to ensure that the system remains comprehensive and that ongoing medical monitoring of such patients is maintained. Otherwise, such social support services are provided in conjunction with Level 3 chronic disease management services (where appropriate).

Figure 2: Diagrammatic representation of the initial assessment and level of care assignment under reformed Medicare chronic disease prevention and management program



Estimates suggest that about 70% to 80% of people with chronic disease self-manage with medical support (Level 1), with the remainder requiring additional multidisciplinary care (Level 2), with or without social support (Level 3) (Hudson, 2005). As estimates from the most recent data show:

- For the 45-year-old health check item, 139,586 services were provided from November 2006 to November 2007; in the care assignment framework proposed here, these patients would be eligible for preventive care and risk reduction monitoring.
- From November 2006 to November 2007, 758,024 GPMPs were prepared; these services would be broadly equivalent to Level 1 (medical management of chronic disease) in the proposed framework.
- Level 2 of the framework (medical and multidisciplinary care) would correspond to the current TCA under the Medicare CDM arrangements; from November 2006 to November 2007, 463,522 TCAs were prepared.
- Level 3 would broadly correspond to patients currently in receipt of HACC (or other community care program) services; in 2005-06, there were at least 793,472 HACC recipients. An additional 35,316 people received CACPs, and 2,575 received EACH packages; the overlap between these recipients and those participating in the HACC program is not known.
- For the mental health stream, 496,807 GP MHC plans were prepared between November 2006 and November 2007; the overlap between patients requiring these services and who would require other chronic disease management services is not known.

Care planning

Under the current Medicare programs, a flat-rate payment is applicable to all care plans and other items, irrespective of patient (or care plan) complexity. The current CDM program only accounts for complexity with regard to the use of TCAs. Payments for TCAs are also at a flat rate, regardless of the underlying complexity of arrangements that may be required (which themselves may be limited by the cap on referred allied health services).

By not accounting for complexity, the flat-rate approach to payment for care planning is in danger of not adequately encouraging high-quality care planning for those patients most in need. Indeed, care planning for highly complex patients (and the sustained effort required to properly plan and coordinate their care) may be deemed “not worth it” from a payment perspective and create a cream-skimming effect.

The coordination and integration of multidisciplinary services has been identified as an impediment to the use of care planning as a whole (Blakeman, Harris, Comino, & Zwar, 2001), and reform must allow for increased payments to GPs to account for the greater length of time involved in the preparation and coordination of such complex plans. To ensure that payment for care planning appropriately reflects the time, effort and complexity involved, a graded system is required rather than the current “add on” of a TCA.

Following decisions about the level of support needed, all patients enrolled in Medicare CDP should have a *single* care plan. The care planning process would involve the normal processes of goal-setting, planning of services and treatments necessary, and set timeframes for review according to complexity and need. Patient categorisation should drive program eligibility, the mix of services provided and payments for care planning, services and outcomes.

The revised care planning model should incorporate provision for risk prevention, medical management, multidisciplinary care (including mental health care) and social support. Effectively, this would bring together the GPMP/TCA and GP MHC plans into one coherent scheme for care planning. A chronic disease management care plan should be completed by a GP or other appropriately qualified provider.

To address the concerns described above, a new care planning item structure should be implemented. The item payment should reflect the complexity of the care planning required (i.e. preventive, Levels 1-3, mental health). Access to multidisciplinary care (including psychological services) and social support should be through the integrated chronic disease care planning and referral process.

Care planning should also be closely tied to service coordination. Providers entitled to prepare care plans should have the capacity to ensure appropriate service coordination occurs for the level of care required.

Services and coordination

Coordinated services (service packages) should be assigned to patients on the basis of their level of care. These services should be provided according to the care plan, as well as being responsive to changes in patient need. For patients requiring more intense service provision from a range of providers, service coordination options should exist to facilitate the process (discussed below).

Service payments should reflect patient categorisation:

- Level 1 patients would be entitled to all standard Medicare and PBS services, plus the care planning and review payments included in the Medicare CDP. In addition, GPs would be eligible for incentive payments for patient outcomes (see below).
- Level 2 patients would be entitled to the allied health and nursing services as determined by the multidisciplinary care plan. Service coordination and the care plan review process should ensure these services are appropriately and effectively provided as part of an integrated care plan.
- Level 3 patients will require more than multidisciplinary care and a straightforward pathway into community care services is required. In addition to community nursing and allied health included in Level 2, home and community care should include personal care, domestic assistance, home and garden maintenance, respite care, delivered meals, community transport and social support (i.e. many of the current HACC-funded services). These services should be available through the care plan where required.
- Where it is necessary, service payments for the mental health services provided outside the chronic disease care levels should also be tied to patient categorisation.

GP consultations

Under the current GP MHC program, an extended consultation item (MBS Item # 2713) is available specifically for mental health consultations. As described in the previous paper, this item is available without it being necessary to prepare a care plan under the GP MHC program. It is proposed here that to encourage high-quality chronic disease care, the underlying rationale of the GP MHC consultation item be extended into a chronic disease consultation item; such an item should be available at all levels of care and *only* be accessible where care plans are in place. A tiered approach to payment (i.e. graded according to patient level) may create an additional incentive within the system for GPs to spend more consultation time with complex patients, most in need of such care.

Allied health

The current Medicare programs provide for a limited number of allied health consultations for chronic disease management. Recently, the peak body for allied health, Allied Health Professions Australia (AHPA), advocated for numerous changes to the existing system to create an easier referral process and to recognise that the flat-rate payment to allied health professionals does not recognise that some consultations (e.g. initial consultations) are of an extended duration (APHA, 2007).

Under the model proposed here, considerable scope would exist for such improvements in the accessibility of allied health services. A more integrated and coordinated model of chronic disease care will assist in the referral process generally. Similar to the arguments above for GP services in preparing care plans, the flat-rate approach should be reconsidered, and payments should be aligned to patient complexity to ensure better quality care based on need. Greater recognition of the contribution of allied health professionals to the care planning process (where they are involved for Level 2 and 3 patients) should be built into the payment structure, as well as differentiation of service items to reflect longer initial consultations (where necessary).

Mental health

As detailed above, mental health care planning should be re-integrated into the general care planning mechanism proposed as part of the re-aligned program, but the existing mental health service package should be retained. This would create a simpler system for GPs to use, even for patients without chronic disease/s who require mental health management services only. The existing program arrangements for allied health services under the GP MHC program should also be retained as a service package independent of the level of chronic disease care required.

Coordination of services

It is important that appropriate service coordination occurs to ensure that timely and effective services are provided to patients. There are a range of circumstances where patients with more complex chronic care needs require extended hours, urgent and/or flexible care; this is particularly true for patients with Level 3 care needs.

It is recommended that provision for service coordination should be incorporated in the Medicare CDP for Level 2 and 3 patients. A nurse or appropriately qualified allied health practitioner should coordinate care; annual payments for coordination services based on the number of and level of care plans should be made to practices delivering these levels of care.

GPs should coordinate prevention and Level 1 care as part of their care planning and review cycle and normal service provision. Where GPs and other qualified practitioners are unable to ensure appropriate service coordination for Level 2 and 3 care, they should refer patients to agencies that are able to provide this level of planning and coordination. Agencies providing such service coordination (including state-based agencies) should be eligible to receive the service coordination funding from Medicare in the same way that general practices would.

Importantly, access to services in Medicare CDP should be based on need as determined by the patient eligibility assessment and categorisation. Payments for medical, nursing, allied health and home and community care services would be tied to the patient categorisation and care plans. The responsibility for care plans would rest with individual medical practitioners but could be delegated to nursing and allied health practitioners as appropriate.

Patients would elect to participate in Medicare CDP on the understanding that their chronic disease care would be coordinated through one medical practitioner (or practice). In doing so, they would gain access to a greater range of services than would be available to them through the general Medicare program, particularly for Level 2 and 3 patients. If they chose not to participate, they would retain their general Medicare entitlements, but would not have access to additional Medicare CDP services.

Specific service guidelines for different categories of care (e.g. diabetes, asthma, chronic obstructive pulmonary disease, renal disease) would be developed to ensure adherence to best practice. Care coordinators would be expected to ensure appropriate levels of service in accordance with the guidelines, and incentive payments (see below) would be made accordingly. Greater flexibility of service levels for multidisciplinary care would be permitted within a properly planned, coordinated and monitored care program.

Service payment mechanism

Payments for services would continue to be administered by Medicare Australia. Payments for allied health, dental and psychology services would continue to be available using the current system. The current CDM payment system for allied health would need to be extended to include community nursing for patients who meet the criteria for Levels 2 and 3. Similar service payment arrangements as those used by the Department of Veterans' Affairs for their VHC program could be adopted for home and community care services provided through Medicare CDP.

Monitoring, feedback and incentives

Follow-up and review of care planning and service/health outcomes is essential to the process. Continuous re-assessment of patient needs at review stages is necessary to ensure that the appropriate service package is available, as patients will naturally increase or decrease in their level of need over time. Re-assignment to a new level of need category will necessarily trigger new decision, care planning and service provision steps in a cyclical fashion.

Given the more complicated nature of the care required for Level 2 and 3 patients, it would be advantageous to include SIP-style payments for adherence to recommended care processes such as the cycle of care for diabetes (as per the above discussion). This would provide additional incentives for care coordination in accordance with good practice guidelines, as is the case in the UK model.

Similarly, there should be outcome measures and performance payments for specific conditions (e.g. diabetes) to provide additional incentives to reward high-quality care provision as is seen in the QOF model. The PIP/SIP model could be adapted (as discussed above) to include incentive payments for achieving successful outcomes for patients participating in the Medicare CDP. For example, incentive payments could be made to practices as part of the care plan review for patients who achieve appropriate blood pressure targets.

To improve the quality of overall chronic disease care, such outcome incentives should be applied to all categories of patients, using a grading of payments, to provide GPs with greater reward for desirable outcomes in patients with complex needs. This grading of payments will assist in encouraging care of such complex patients and avoid the cream-skimming limitation of the UK system.

In the move from the EPC to the CDM program, greater scope for practice nurses to contribute to patient care was included to divert "red tape" from GPs. The model proposed here would build and expand on this notion. For Level 2 and 3 patients, where greater social support and service coordination is required, patient-related accountability and reporting should be handled by nursing and allied health workers to ensure GP time is maximised in managing the medical elements of care. For performance and outcome measures, better information technology and systems must be funded to streamline this approach, and payments should follow the incentive structure proposed.

A minimum data set derived directly from the completion of the assessment and care plans should be developed to assist with monitoring, performance payment and accountability. Analysis of the minimum data set should be used to support the incentives outlined above and

to assist in monitoring the cost of care plans for participating patients, as well as to give feedback and guidance to providers on their performance.

Summary: Implications of reforms

The Commonwealth taking responsibility for a Medicare CDP has significant implications for federal-state relations in health. As part of the establishment of an integrated primary care chronic disease program, the states should consider transferring their funding commitment for primary care to the Commonwealth.

Agencies that are currently state-funded (e.g. community health services) would receive funding for their primary care activities, including chronic disease prevention and management, from the Commonwealth. The states would retain responsibility for the overall regulation, management and performance of existing state primary care organisations and they could continue to fund them for other activities (e.g. health promotion, community development, financial counselling).

The states also have a considerable direct interest in chronic disease prevention and management through hospital demand management programs. The majority of the patients who qualify for these hospital demand management programs would be eligible for Medicare CDP and consideration should be given to funding HDM through this program. The states could retain responsibility for assessment and referral functions and provide incentive payments, along the lines of the Medicare CDP, to primary care providers for patients referred through hospital demand management programs.

Consideration should be given to developing the role of GP superclinics to focus on chronic disease prevention and management. If this were to occur, superclinics could have a close relationship with the local hospital demand management programs to trial integrated service delivery in primary and community settings.

Specialist consultation would continue to be a key part of the Medicare CDP; no changes to the referral and payment arrangements for specialist services are proposed. However, the inclusion of service coordination for Level 2 and 3 patients should ensure more efficient, responsive and accountable specialist services (including public outpatients).

Organisations like Divisions of General Practice should have a key role in planning, building capacity and performance management of the primary and community care system, particularly in the prevention and management of chronic disease. They should be re-developed to become Divisions of Primary Health and Community Care, with state representation in their governance to ensure that states have a role in planning, capacity building, monitoring and accountability of primary and community care services. Re-developed Divisions would become the main vehicle for service planning and coordination for primary and community care catchments.

The states could use Divisions to provide additional funds (e.g. capital, service development) to ensure primary and community care services are responsive to the needs of acute care providers and that regional variations are adequately addressed. Divisions would also ensure there is high-quality information and consultation between primary and community care agencies and acute health providers. States could also provide funding to Divisions for public health and health promotion activities.

The states currently have a significant role in ensuring that people on low incomes and those with special needs have access to services such as allied health. The Commonwealth should

ensure there are no income barriers for these groups in accessing Medicare CDP. As far as possible, the incentive and payment arrangements should favour the provision of care in low socioeconomic, rural and other high-need areas to ensure that chronic disease management services are appropriately allocated within the community.

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Appendix 1: Medicare items and the UK QOF indicators

The following provides a point-by-point comparison of the MBS requirements for the diabetes and asthma SIP items, and the GP MHC planning and review items, relative to the comparable indicators used in the UK QOF.

Diabetes

The QOF diabetes indicators and the PIP/diabetes SIP contain many similarities, reflective of the fact that both frameworks draw upon current evidence-based guidelines for the treatment of type II diabetes. While the Australian diabetes SIP contains more requirements encouraging self-management practices and regular medication reviews than the QOF, key outcome targets for diabetes (namely target levels for HbA1c, blood pressure and cholesterol) are, in comparison, absent from the Australian system (Table 7).

Table 7: Comparison of diabetes indicators under UK QOF and Australian PIP and diabetes cycle-of-care SIP requirements

Indicator/area	UK – QOF	Australia – PIP and diabetes cycle-of-care SIP
Disease register	DM-19: The practice can produce a register of all patients aged 17 years and over with diabetes mellitus, which specifies whether the patient has Type I or Type II diabetes.	PIP: register payment for notification that practice uses a diabetes register and recall/reminder system
Body mass index	DM-2: The percentage of patients with diabetes whose notes record BMI in the previous 15 months*	SIP: measure weight and height and calculate BMI (at least twice every cycle of care)
Smoking status [†]	<p>SMOKING-1: The percentage of patients with any or any combination of the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD or asthma whose notes record smoking status in the previous 15 months. Except those who have never smoked where smoking status need only be recorded once since diagnosis</p> <p>SMOKING-2: The percentage of patients with any or any combination of the following conditions: coronary heart disease, stroke or TIA, hypertension, diabetes, COPD or asthma who smoke whose notes contain a record that smoking cessation advice or referral to a specialist service, where available, has been offered within the previous 15 months</p>	SIP: check smoking status; encourage cessation of smoking (if relevant)
HbA1c testing	DM-5: The percentage of diabetic patients who have a record of HbA1c or equivalent in the previous 15 months	SIP: assess diabetes control by measuring HbA1c (at least once every year)

Table 7 (continued)

Indicator/area	UK – QOF	Australia – PIP and diabetes cycle-of-care SIP
HbA1c level attained	<p>DM-20: The percentage of patients with diabetes in whom the last HbA1c is 7.5 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months</p> <p>DM-7: The percentage of patients with diabetes in whom the last HbA1C is 10 or less (or equivalent test / reference range depending on local laboratory) in last 15 months</p>	-
Physical exams	<p>DM-21: The percentage of patients with diabetes who have a record of retinal screening in the previous 15 months</p> <p>DM-9: The percentage of patients with diabetes with a record of presence or absence of peripheral pulses in the previous 15 months</p> <p>DM-10: The percentage of patients with diabetes with a record of neuropathy testing in the previous 15 months</p>	<p>SIP: ensure that a comprehensive eye examination is carried out (at least once every two years)</p> <p>SIP: examine feet (at least twice every cycle of care)</p>
Blood pressure testing	DM-11: The percentage of patients with diabetes who have a record of the blood pressure in the past 15 months	SIP: measure blood pressure (at least twice every cycle of care)
Blood pressure level attained	DM-12: The percentage of patients with diabetes in whom the last blood pressure is 145/85 mmHg or less	-
Micro-albuminuria testing	DM-13: The percentage of patients with diabetes who have a record of micro-albuminuria testing in the previous 15 months (exception reporting for patients with proteinuria)	SIP: test for microalbuminuria (at least once every year)
Serum creatinine testing	DM-22: The percentage of patients with diabetes who have a record of estimated glomerular filtration rate (eGFR) or serum creatinine testing in the previous 15 months	-
ACE/A ₂ antagonist treatment	DM-15: The percentage of patients with diabetes with proteinuria or micro-albuminuria who are treated with ACE inhibitors (or A ₂ antagonists)	-
Cholesterol testing	DM-16: The percentage of patients with diabetes who have a record of total cholesterol in the previous 15 months	SIP: measure total cholesterol, triglycerides and HDL cholesterol (at least once every year)
Cholesterol level attained	DM-17: The percentage of patients with diabetes whose last measured total cholesterol within previous 15 months is 5 or less	-

Table 7 (continued)

Indicator/area	UK – QOF	Australia – PIP and diabetes cycle-of-care SIP
Influenza immunisation	DM-18: The percentage of patients with diabetes who have had influenza immunisation in the preceding 1 September to 31 March	-
Self management	-	SIP: provide self-care education regarding diabetes management SIP: review diet; reinforce information about appropriate dietary choices SIP: review levels of physical activity; reinforce information about appropriate levels of physical activity
Medication review	-	Review of medication

* The QOF also contains a separate indicator for BMI (OB 1: The practice can produce a register of patients aged 16 and over with a BMI greater than or equal to 30 in the previous 15 months).

† Specific smoking indicators for diabetes were included in the previous QOF but have been removed and redesignated as the generic smoking indicators described above.

Asthma

The QOF includes a small set of process-based indicators for asthma management; as shown in Table 8 (below) the Australian process indicators are broadly relatable to those used in the QOF.

Table 8: Comparison of asthma indicators under UK QOF and Australian PIP and asthma cycle-of-care SIP requirements

Indicator/area	UK – QOF	Australia – PIP and asthma cycle-of-care SIP
Disease register	ASTHMA-1: The practice can produce a register of patients with asthma excluding patients with asthma who have been prescribed no asthma-related drugs in the last twelve months	*
Diagnosis	ASTHMA-8: The percentage of patients aged eight and over diagnosed as having asthma from 1 April 2006 with measures of variability or reversibility	SIP: documented diagnosis and assessment of level of asthma control and severity of asthma
Smoking status [†]	ASTHMA-3: The percentage of patients with asthma between the ages of 14 and 19 in whom there is a record of smoking status in the previous 15 months	

Table 8 (continued)

Indicator/area	UK – QOF	Australia – PIP and asthma cycle-of-care SIP
Review consultation requirement	ASTHMA-6: The percentage of patients with asthma who have had an asthma review in the last 15 months [#]	<p>SIP: at least 2 asthma related consultations within 12 months for a patient with moderate to severe asthma (at least 1 of which (the review consultation) is a consultation that was planned at a previous consultation)</p> <p>SIP: review of the patient's use of and access to asthma related medication and devices</p> <p>SIP: provision to the patient of a written asthma action plan (if the patient is unable to use a written asthma action plan - discussion with the patient about an alternative method of providing an asthma action plan, and documentation of the discussion in the patient's medical records)</p> <p>SIP: review of the written or documented asthma action plan</p>
Influenza vaccination	ASTHMA-7: The percentage of patients age 16 years and over with asthma who have had influenza immunisation in the preceding 1 September to 31 March	-
Self management	-	SIP: provision of asthma self-management education to the patient

* Not a register as such under PIP, only an agreement to provide data to the Australian Government.

† Also includes the generic smoking indicators (SMOKING-1 and SMOKING-2) as described for diabetes in Table 7; the previous version of the QOF included two additional asthma-specific smoking indicators.

Under the QOF, an asthma review typically includes an assessment of symptoms, measurement of peak flow, assessment of inhaler technique and consideration of a personalised asthma plan.

Mental health

The QOF includes a broad set of process-based mental health indicators (aimed at schizophrenia, bipolar disorders and other psychoses), as well as two specific indicators for depression.¹⁷ Table 9 compares the QOF indicators with the current requirements of the GP MHC program's assessment-plan-review cycle for all types of mental disorders.

¹⁷ One of the depression indicators relates to depression as a co-morbidity in patients listed on diabetes and/or coronary heart disease registers.

Table 9: Comparison of mental health indicators under UK QOF and Australian GP MHC program planning and review item requirements

Indicator/area	UK – QOF	Australia – GP MHC planning and review item requirements
Disease register	<p>MH-8: The practice can produce a register of people with schizophrenia, bipolar disorder and other psychoses</p> <p>DEP-1: The percentage of patients on the diabetes register and/or the CHD register for whom case finding for depression has been undertaken on one occasion during the previous 15 months using two standard screening questions</p>	-
Assessment	DEP-2: In those patients with a new diagnosis of depression, recorded between the preceeding 1 April to 31 March, the percentage of patients who have had an assessment of severity at the outset of treatment using an assessment tool validated for use in primary care	Assessment includes agreement with patient, relevant history, mental state examination, assessment of risk and co-morbidity, diagnosis/formulation, outcome measurement tool administered
Plan	MH-6: The percentage of patients on the register who have a comprehensive care plan documented in the records agreed between individuals, their family and/or carers as appropriate	Preparation of mental health plan – discussion of assessment/diagnosis with patient, identification of referral and treatment options, agreed goals, provision of education, crisis plan, referral arrangements and support services
Review	MH-9: The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses with a review recorded in the preceding 15 months. In the review there should be evidence that the patient has been offered routine health promotion and prevention advice appropriate to their age, gender and health status	Review of progress against goals outlined in plan, plan modifications where required, checking, reinforcing and expanding education provided, crisis plan review, re-administration of outcome measurement tool
Therapeutic monitoring	<p>MH-4: The percentage of patients on lithium therapy with a record of serum creatinine and TSH in the preceding 15 months</p> <p>MH-5: The percentage of patients on lithium therapy with a record of lithium levels in the therapeutic range within the previous 6 months</p>	-
Other	MH-7: The percentage of patients with schizophrenia, bipolar affective disorder and other psychoses who do not attend the practice for their annual review who are identified and followed up by the practice team within 14 days of non-attendance	-

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