How can Australia improve its primary health care system to better deal with chronic disease?

Background paper

McKinsey & Company
This background paper has been prepared by McKinsey & Company. The paper is not an exhaustive literature review but rather a brief overview of a large subject area. It is neither a comprehensive overview of all primary health care activities in Australia, nor a complete review of all potential alternatives adopted internationally. It does not attempt to evaluate or compare international approaches, nor does it recommend or endorse particular approaches for implementation in Australia. Instead, it focuses on summarising alternative approaches and providing international examples in order to provoke and inform discussions around the future of primary health care in Australia.
## Contents

Executive summary 1  
Acronyms and glossary of terms 5  
Definitions 9  
Introduction 10  
Chapter 1: The history of Australia’s primary health care system 12  
1.1 Prior to 1984 12  
1.2 Since 1984 12  
Chapter 2: Opportunities to improve care for people with chronic disease 15  
2.1 Quality of care 17  
2.2 Consumer experience 19  
2.3 Access to care 20  
2.4 Cost and sustainability 23  
Chapter 3: The dimensions of primary health care 28  
Chapter 4: Primary health care governance and financing 31  
4.1 Governance structure 31  
4.2 Funding source(s) 37  
4.3 Funding mechanism(s) 41  
Chapter 5: Primary health care consumer interaction with the health system 48  
5.1 Consumer segmentation 48  
5.2 Medical homes and enrolment 54  
5.3 Education and self-management 56  
Chapter 6: Primary health care professionals 61  
6.1 Clinical leadership 61  
6.2 Workforce composition and roles 67
<table>
<thead>
<tr>
<th>6.3 Provision of care coordination</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 7: Primary health care systems and processes</td>
<td>78</td>
</tr>
<tr>
<td>7.1 Digital health</td>
<td>78</td>
</tr>
<tr>
<td>7.2 Information transparency</td>
<td>84</td>
</tr>
<tr>
<td>7.3 Continuous quality improvement processes</td>
<td>88</td>
</tr>
<tr>
<td>7.4 Care pathways</td>
<td>91</td>
</tr>
<tr>
<td>Conclusion</td>
<td>93</td>
</tr>
<tr>
<td>Bibliography</td>
<td>94</td>
</tr>
</tbody>
</table>
Executive summary

This background paper has two purposes: (1) to provide an overview of Australia’s primary health care system, with a particular focus on people with chronic and complex diseases; and (2) to survey potential alternatives to the current system that have been adopted internationally. It is important to note that this background paper is neither a comprehensive overview of all primary health care activities in Australia, nor a complete review of all potential alternatives adopted internationally. It does not attempt to evaluate or compare international approaches, nor does it recommend particular approaches for implementation in Australia. Instead, it focuses on summarising alternative approaches and providing international examples in order to provoke and inform discussions around the future of primary health care in Australia.

The primary health care system is typically a consumer’s main source of contact with health professionals. It has four main purposes: (1) to coordinate care between different providers and different parts of the health care system; (2) to provide the right care at the right time, ensuring population health; (3) to provide cost-effective, community-based care, and in doing so minimise hospital-based care; and (4) to act as a gateway to other services in order to ensure that they are only provided when needed.\(^1\)\(^-\)\(^3\)

Overall, Australia achieves excellent health outcomes, but in the coming decades, the primary health care system will have to respond to the growing burden of chronic disease, which already accounts for over 90 per cent of all deaths and is the leading cause of illness and disability in Australia.\(^4\)

Opportunities exist to:

- **Improve the quality of care delivered to people with chronic diseases** in order to reduce clinical variation, improve people’s quality of life and reduce avoidable hospitalisations.

- **Improve consumers’ experience of primary health care**, particularly with respect to the coordination of team-based care and self-management.

- **Improve access to primary health care**, especially out of hours and in rural and remote areas.

- **Reduce the rate of health care expenditure** (which is currently growing faster than the national economy) to ensure that the system is economically sustainable.

Realising these opportunities requires changes in four areas of the primary health care system: governance and financing, consumer interaction with the health system, the primary health care workforce, and care systems and processes. Australia can be aided in this process by drawing on, and learning from, the experiences of others in the international community, whose varied approaches can inform discussions about the future of primary health care in Australia.
Primary health care governance and financing

- **Governance structure:** Responsibility for primary and secondary care is assumed at both the national and the regional level in Australia. This can result in cost shifting and makes it difficult to identify and support the cross-sector needs of regional populations, particularly those with chronic and complex conditions. To overcome similar issues, health systems around the world are looking for ways to integrate primary and secondary care more closely, including through combined governance structures (particularly at the local level) or pooled funding arrangements.

- **Funding sources:** The majority of primary health care in Australia is funded through Medicare and patient contributions. Commonwealth and state governments provide additional funding to support community health services. Private health insurers play an important role in helping consumers meet some of the costs of services not funded through these mechanisms.

- **Funding mechanisms:** More than 90 per cent of primary health care funding in Australia is paid on a fee-for-service basis, with less than 10 per cent linked to quality of care (e.g., the Practice Incentives Program). This system incentivises greater levels of service provision and, in theory, improve access. However, it does not incentivise population health outcomes or value for money, and may encourage supply-driven demand. Other countries in the Organisation of Economic Co-operation and Development (OECD)—including New Zealand, Norway, the Netherlands, the United States, Italy, Sweden, France and the United Kingdom—are opting for a blend of fee-for-service payments, payment for outcomes and capitation. While meta-analyses of the different funding approaches are inconclusive, there are numerous examples around the world where innovative funding models have contributed to improved outcomes and consumer experience.

Consumer interaction with the health system

- **Consumer segmentation:** Five per cent of people in Australia account for 28 per cent of costs, and identifying these people ahead of time could facilitate earlier intervention, leading to both improved outcomes and reduced costs. There are numerous examples of successful systems that segment consumers based on need, either by enrolling the most high-risk individuals in specific disease management programs (e.g., Torbay in the United Kingdom and the Hospital Admissions Risk Program in Australia), or by comprehensively segmenting their entire population and tailoring care for each group (e.g., Kaiser Permanente or the Care First Patient-Centered Medical Home program in the United States).

- **Medical homes and enrolment:** Consumers do not formally enrol with practices or primary health care providers in Australia, and while most people do return to the same general practice over time, there is no formal concept of a ‘health care home.’ Although the current system offers a number of advantages, including simplicity and consumer choice, medical homes may be an attractive option as they establish a non-binding agreement.
(enrolment) between patients and health care providers to progress shared health goals. For this reason, several other countries (including New Zealand, the United Kingdom, the United States, Norway and the Netherlands) have adopted some form of enrolment scheme, often as part of a wider suite of health reforms.

- **Primary health care education and self-management**: Australia already has a variety of programs to help people with chronic diseases learn about their conditions and manage their own care. However, there are three areas in which Australia’s efforts could be expanded: (1) the support and coaching provided by health professionals could be improved; (2) peer support programs could be made more widely available; and (3) technology-enabled programs could be improved in order to take advantage of effective, low-cost opportunities to engage people in their own health care.

**Primary health care professionals**

- **Clinical leadership**: Clinical leadership plays an important role in improving the effectiveness and efficiency of health systems. Research in the United Kingdom and the United States has demonstrated a strong relationship between the number of managers with a clinical background and organisational performance. Australia can learn from the variety of approaches to on-the-job leadership development implemented internationally.

- **Workforce composition and roles**: Around the world, systems are looking for ways to support people working ‘to the top of their licence’. Shifting responsibility for specific tasks to health professionals who are appropriately trained to provide these services can free up clinicians to focus on their principle role.

- **The provision of care coordination**: In Australia, GPs or practice nurses usually perform care coordination. One alternative approach is to appoint specialised care coordinators, particularly for people with complex chronic conditions who require care from multiple providers. Most of the patient-centred medical homes in the United States and a number of integrated care systems in the United Kingdom have employed care coordinators to good effect, as have a growing number of programs in Australia. These include the Diabetes Care Project, the Connecting Care in the Community program in New South Wales, the Team Care Coordination program in Brisbane Metro North, the Tasmanian Care Coordination for People with Chronic Disease and Aged Care Clients Program, and Silver Chain in Western Australia.

**Systems and processes**

- **Digital health**: Australia is building its digital health infrastructure through systems such as the personally controlled electronic health record (recently renamed ‘My Health Record’) and funding for telehealth consultations. It can continue to build its digital health capabilities by expanding telehealth and mobile health, integrating remote monitoring devices into primary
health care, expanding integrated electronic medical records (EMRs) and providing decision support through advanced clinical assistance tools.

- **Information transparency:** Providing consumers or providers with transparency on clinical performance and cost can improve the accuracy and quality of data and drive better service and health care quality. However, despite ongoing advocacy for greater performance transparency from organisations such as the Australian Commission on Safety and Quality in Health Care, this has been difficult to achieve in Australia. There is almost no publicly available data about primary health care clinical performance. Australia can learn a lot from other countries, particularly the United Kingdom and the United States, both of which have been working towards greater information transparency for a number of years.

- **Continuous quality improvement (CQI) processes.** Australia has not implemented a national CQI process in primary health care. There are a variety of CQI systems in Australia (e.g., the Australian Primary Care Collaboratives and the Diabetes Care Project) and around the world (in both private and public health systems) that could be further examined.

- **Care pathways:** Although Australia has a multitude of general clinical guidelines, localised care pathways are not universally available. The main alternative for Australia is to create locally standardised care pathways for common chronic diseases, potentially enabled through online decision-support tools that automate decision making on referrals and care planning. A good example is Canterbury Care’s HealthPathways system in New Zealand, which now includes more than 500 different pathways and has contributed to reducing acute and elective hospital admission length of stays.

While Australia has a strong primary care system and achieves a number of excellent health outcomes, significant challenges remain: chronic diseases are increasingly prevalent, health care costs are growing faster than the national economy, and the best possible care is not always delivered. Australia has an opportunity to find innovative solutions to these challenges, and in doing so, to meet the emerging health care demands of the 21st century. It can be aided in this process by drawing on the varied approaches adopted within the international community, all of which can inform discussions about the future of primary care in Australia.
### Acronyms and glossary of terms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABS</td>
<td>Australian Bureau of Statistics</td>
</tr>
<tr>
<td>ACI</td>
<td>Agency for Clinical Innovation</td>
</tr>
<tr>
<td>ACAT</td>
<td>Aged Care Assessment Team</td>
</tr>
<tr>
<td>ACO</td>
<td>Accountable care organisation</td>
</tr>
<tr>
<td>ACSQHC</td>
<td>Australian Commission on Safety and Quality in Health Care</td>
</tr>
<tr>
<td>AHP</td>
<td>Allied health professional</td>
</tr>
<tr>
<td>AMA</td>
<td>Australian Medical Association</td>
</tr>
<tr>
<td>AMSA</td>
<td>American Medical Student Association</td>
</tr>
<tr>
<td>ANAO</td>
<td>Australian National Audit Office</td>
</tr>
<tr>
<td>APCC</td>
<td>Australian Primary Care Collaboratives</td>
</tr>
<tr>
<td>APHCRI</td>
<td>Australian Primary Health Care Research Institute</td>
</tr>
<tr>
<td>CCG</td>
<td>Clinical commissioning groups</td>
</tr>
<tr>
<td>CDM</td>
<td>Chronic disease management</td>
</tr>
<tr>
<td>CLP</td>
<td>Clinical leadership programs</td>
</tr>
<tr>
<td>CMS</td>
<td>Centres for Medicaid and Medicare Services</td>
</tr>
<tr>
<td>CPM</td>
<td>Combined predictive model</td>
</tr>
<tr>
<td>CPOE</td>
<td>Clinical Point of Entry</td>
</tr>
<tr>
<td>CQI</td>
<td>Continuous quality improvement</td>
</tr>
<tr>
<td>CROM</td>
<td>Clinical reported outcome measurements</td>
</tr>
<tr>
<td>CVC</td>
<td>Coordinated Veterans’ Care</td>
</tr>
<tr>
<td>DAFNE</td>
<td>Dose Adjustment for Normal Eating program</td>
</tr>
<tr>
<td>DALYs</td>
<td>Disability adjusted life years</td>
</tr>
<tr>
<td>DCMS</td>
<td>Diabetes care management system</td>
</tr>
<tr>
<td>DCP</td>
<td>Diabetes Care Project</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>DGPs</td>
<td>Divisions of General Practice</td>
</tr>
<tr>
<td>DHBs</td>
<td>District health boards</td>
</tr>
<tr>
<td>DMPs</td>
<td>Disease management programs</td>
</tr>
<tr>
<td>DPM</td>
<td>Devon Predictive Model</td>
</tr>
<tr>
<td>DSM</td>
<td>Diabetes self management</td>
</tr>
<tr>
<td>DVA</td>
<td>Department of Veterans’ Affairs</td>
</tr>
<tr>
<td>ED</td>
<td>Emergency department</td>
</tr>
<tr>
<td>eLfH</td>
<td>Department of Health’s eLearning for Healthcare</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic medical records</td>
</tr>
<tr>
<td>EPC</td>
<td>Enhanced Primary Care</td>
</tr>
<tr>
<td>FFS</td>
<td>Fee for service</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross domestic product</td>
</tr>
<tr>
<td>GHP</td>
<td>Geisinger Health</td>
</tr>
<tr>
<td>GP</td>
<td>General practitioner</td>
</tr>
<tr>
<td>HSCIC</td>
<td>Health and Social Care Information Centre</td>
</tr>
<tr>
<td>HWA</td>
<td>Health Workforce Australia</td>
</tr>
<tr>
<td>INWMMML</td>
<td>Inner North West Melbourne Medicare Local</td>
</tr>
<tr>
<td>IT</td>
<td>Information technology</td>
</tr>
<tr>
<td>KP</td>
<td>Kaiser Permanente</td>
</tr>
<tr>
<td>LHD</td>
<td>Local health district</td>
</tr>
<tr>
<td>LHN</td>
<td>Local hospital network</td>
</tr>
<tr>
<td>MBS</td>
<td>Medicare Benefits Schedule</td>
</tr>
<tr>
<td>MLCF</td>
<td>Medical Leadership Competency Framework</td>
</tr>
<tr>
<td>MOU</td>
<td>Memoranda of understanding</td>
</tr>
<tr>
<td>NCQA</td>
<td>National Committee for Quality Assurance</td>
</tr>
<tr>
<td>NEHTA</td>
<td>National eHealth Transition Authority</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organisation</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>NHIA</td>
<td>National Health Information Agreement</td>
</tr>
<tr>
<td>NHIF</td>
<td>National Health Insurance Fund</td>
</tr>
<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health Service</td>
</tr>
<tr>
<td>NMBA</td>
<td>Nursing and Midwifery Board of Australia</td>
</tr>
<tr>
<td>NPs</td>
<td>Nursing practitioners</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales</td>
</tr>
<tr>
<td>PA</td>
<td>Physician assistants</td>
</tr>
<tr>
<td>PCEHR</td>
<td>Personally controlled electronic health record</td>
</tr>
<tr>
<td>PCMH</td>
<td>Patient-centred medical home</td>
</tr>
<tr>
<td>PCPHC</td>
<td>Primary Care Population Health Committee</td>
</tr>
<tr>
<td>PCTs</td>
<td>Primary care trusts</td>
</tr>
<tr>
<td>PFP</td>
<td>Physician Feedback Program</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary health care</td>
</tr>
<tr>
<td>PHN</td>
<td>Primary Health Networks</td>
</tr>
<tr>
<td>PHOs</td>
<td>Primary health organisations</td>
</tr>
<tr>
<td>PIP</td>
<td>Practice Incentives Program</td>
</tr>
<tr>
<td>PLM</td>
<td>patientslikeme</td>
</tr>
<tr>
<td>PMEG</td>
<td>Peninsula Model Executive Group</td>
</tr>
<tr>
<td>PNIP</td>
<td>Practice Nurse Incentive Program</td>
</tr>
<tr>
<td>PPH</td>
<td>Potentially preventable hospitalisation</td>
</tr>
<tr>
<td>PREM</td>
<td>Patient reported experience measurements</td>
</tr>
<tr>
<td>PROM</td>
<td>Patient reported outcome measurements</td>
</tr>
<tr>
<td>QISP</td>
<td>Quality improvement support payments</td>
</tr>
<tr>
<td>QOF</td>
<td>Quality and Outcomes Framework</td>
</tr>
<tr>
<td>QPIs</td>
<td>Quality performance indicators</td>
</tr>
<tr>
<td>RACGP</td>
<td>Royal Australian College of General Practitioners</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>SIPs</td>
<td>Service Incentive Payments</td>
</tr>
<tr>
<td>SMOOTH</td>
<td>Safer medicines outcomes on transfer home</td>
</tr>
<tr>
<td>UHI</td>
<td>Unique Health Identifier</td>
</tr>
<tr>
<td>UQ</td>
<td>University of Queensland</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
Definitions

This background document has adopted the following definitions.

**Consumer:** “Consumers are members of the public who use, or are potential users of healthcare services. When referring to consumers, the Commission is referring to patients, consumers, families, carers, and other support people” (Australian Commission on Safety and Quality in Health Care). This document acknowledges the ongoing international debate about the term ‘health care consumers.’

**Primary health care:** “Primary (health) care is first-contact, accessible, continued, comprehensive and coordinated care. First-contact care is accessible at the time of need; ongoing care focuses on the long-term health of a person rather than the short duration of the disease; comprehensive care is a range of services appropriate to the common problems in the respective population and coordination is the role by which primary care acts to coordinate other specialists that the patient may need” (World Health Organization). This document acknowledges the difference between primary health care and primary care and has adopted this comprehensive World Health Organization (WHO) definition of primary health care.

**Secondary care:** “Secondary care is medical care provided by a specialist or facility upon referral by a primary care physician. It includes services provided by hospitals and specialist medical practices” (Australian Institute of Health and Welfare).

**Practice nurse:** “Primary health care nurses work in a range of settings, each sharing the characteristic that they are a part of the first level of contact with the health system. In Australia, those settings can include community settings, general practice, domiciliary settings, educational settings, occupational settings, informal and unstructured settings. Roles of the practice nurse include health promotion, illness prevention, midwifery, antenatal and postnatal care, treatment and care of sick people, rehabilitation and palliation, community development, population and public health, education and research, and policy development and advocacy” (Australian Primary Health Care Nurses Association).

**Nurse practitioner:** “A nurse practitioner is a registered nurse educated to function autonomously and collaboratively in an advanced and extended clinical role. The role includes assessment and management of clients using nursing knowledge and skills and may include but is not limited to the direct referral of patients to other health care professionals, prescribing medications and ordering diagnostic investigations” (Australian Nursing and Midwifery Accreditation Council).

**Allied health:** Allied health professionals “are autonomous practitioners; practice in an evidence based paradigm using an internationally recognised body of knowledge to protect, restore and maintain optimal physical, sensory, psychological, cognitive, social and cultural function; and may utilise or supervise assistants, technicians and support workers” (Allied Health Professions Australia).
Introduction

This background paper is intended to function as a supporting document for the Primary Health Care Advisory Group’s discussion paper and has been authored by McKinsey & Company. It is important to note that this background paper is not an exhaustive literature review but rather a brief overview of a large subject area. It is neither a comprehensive overview of all primary health care activities in Australia, nor a complete review of all potential alternatives adopted internationally. It does not attempt to evaluate or compare international approaches, nor does it recommend particular approaches for implementation in Australia. Instead, it focuses on summarising alternative approaches and providing international examples in order to provoke and inform discussions around the future of primary health care in Australia.

Primary health care is delivered in the community and is typically a consumer’s first and main source of contact with their health care system. It has four main purposes:1–3

- **Coordinating care:** Providing consumers with a central point of contact, which can coordinate care from different providers and parts of the system.

- **Delivering the right care at the right time:** Maximising overall health care system value by providing evidence-based care at the right time, ensuring population health.

- **Delivering cost-effective care:** Maximising overall health care system value by providing low-cost care, with the intention of minimising more expensive, hospital-based care.

- **Gatekeeping:** Acting as a gateway to other services in order to ensure that they are only provided when needed.

Primary health care provides the foundations of the Australian health care system. There are more than 26,000 general practitioners (GPs), 10,000 practice nurses and thousands of allied health professionals who provide the first touch point for consumers.4,12–13 More than 80 per cent of Australians visit a GP at least once within a 12-month period.14 In 2013–14, 133 million general practice services were claimed through Medicare.15 In most health systems, primary health care physicians control or influence around 80 per cent of health care costs.16 For example, although unreferred medical services account for only $10 billion of total health expenditure (7 per cent) in Australia, GPs heavily influence pharmaceutical use (which accounts for 13 per cent of total expenditure) and referred medical services (which account for 10 per cent of total expenditure). They also play a role in minimising hospital services (which account for 38 per cent of total expenditure).17 In the United States, there is evidence that overall health is better in regions with more primary health care physicians, and in regions where primary health care functions well.3 (In contrast, overall health is worse where specialists predominate.18) In the United Kingdom, having one additional primary health care physician per 10,000 population was associated with a 6 per cent decrease in mortality.19
Managing the growing burden of chronic disease remains the biggest challenge for Australian primary health care. Studies show that between 35 and 50 per cent of people in Australia have at least one chronic disease. Just four chronic diseases account for 36 per cent of all health expenditure in Australia. This paper therefore focuses on primary health care for people with chronic and complex conditions. The paper has two purposes: (1) to provide an overview of Australia’s primary health care system, and (2) to survey potential alternative approaches that have been adopted internationally. It does not attempt to evaluate or compare these alternative approaches, and it does not provide any recommendations about which alternatives should be considered for implementation in Australia.

This background paper is divided into seven chapters. Chapters 1 and 2 are designed to give the reader high-level background information about Australia’s primary health care system, compared with its peers in the Organisation of Economic Co-operation and Development (OECD). Chapter 3 outlines a primary health care framework by describing the four dimensions of primary health care systems. These dimensions form the basis for Chapters 4 to 7, which provide a more detailed overview of the current system in Australia, as well as alternative approaches across the globe.

- **Chapter 1. The history of Australia’s primary health care system:** An overview of the Australian system and the policies and reforms that have shaped it.

- **Chapter 2. Australia’s primary health care outcomes and opportunities to improve:** How Australia compares across the four aims of primary health care (quality, experience, access and cost), with a focus on specific opportunities to improve.

- **Chapter 3. The dimensions of primary health care:** An overview of a framework that describes primary health care systems and their structural alternatives.

- **Chapter 4. Primary health care governance and financing:** An overview of the current system in Australia and alternative approaches.

- **Chapter 5. Primary health care consumer interaction with the health system:** An overview of the current system in Australia and alternative approaches.

- **Chapter 6. Primary health care professionals:** An overview of the current system in Australia and alternative approaches.

- **Chapter 7. Primary health care systems and processes:** An overview of the current system in Australia and alternative approaches.
Chapter 1: The history of Australia’s primary health care system

Despite multiple reforms over the past century, Australia’s primary health care system has retained two core features: GPs as the central provider, and fee-for-service (FFS) payments as the dominant funding mechanism. There have, however, been a number of important structural changes, including:

- A shift from consumer self-funding to predominantly Federal Government funding.
- An expanded role for professionals other than GPs, including allied health professionals (AHPs).
- Tighter regulation of training and registration standards for practitioners.
- The emergence of local primary health care networks, with a trend towards a smaller number of authorities covering a larger portion of the community.
- The introduction of information technology (IT) and the beginnings of national eHealth systems and standards.

1.1 PRIOR TO 1984

At the time of federation, primary health care was considered to be primarily the responsibility of individuals, followed by state and local governments. In 1921, however, a federal Department of Health was established, and in 1946, a referendum on social services paved the way for the Federal Government to become increasingly involved in all parts of the health care system. A national health insurance scheme with voluntary participation was introduced in 1950, and in 1975 universal insurance was introduced (known as Medibank), which lasted until 1981. The organisation that would later become known as the Royal Australian College of General Practitioners (RACGP) was established in 1958, in the midst of these changes to the primary health care system. In 1968, a postgraduate examination for GPs was introduced, followed by the introduction of a formal vocational training program in 1973.

1.2 SINCE 1984

Medicare came into being in 1984, and Australians have had universal access to subsidised or free primary health care services ever since. In 1985, the Better Health Commission was formed to redirect health policy to focus on prevention rather than illness. Since then, reforms to Australia’s primary health care system have focused on three areas:
- **Funding:** Various systems of consumer co-payment for primary health care services have been introduced and then abandoned, most notably in 1991–92, and more recently in 2014–15. Payment for performance in primary health care first appeared in a substantial way in 1999 in the form of the Practice Incentives Program (PIP). Funding specifically targeted at caring for people with chronic and complex diseases was first introduced in 1999–2000 in the form of Enhanced Primary Care (EPC) items in the Medicare Benefits Schedule (MBS), which later evolved into Chronic Disease Management (CDM) items. Care planning and team care arrangements are central to this funding.

- **Registration and training:** Vocational registration for GPs was introduced in 1989 and became compulsory in 1996. This was soon followed by the introduction of practice accreditation standards in 1998, which became a requirement for receiving PIP payments in 2001. Practice accreditation remains voluntary.

- **Administration:** The first formal primary health care system established Divisions of General Practice (DGPs), which were introduced in 1992. By 2007–08, there were 110 DGPs. The DGPs were succeeded by Medicare Locals in 2010, 61 of which existed by 2014. A transition from Medicare Locals to 31 Primary Health Networks (PHNs) is currently underway. The PHNs will have wider mandates than the Medicare Locals, with six priorities for targeted work: mental health, Aboriginal and Torres Strait Islander health, population health, health workforce, eHealth and aged care.

While the Australian health care system has undergone important changes in recent decades, it will need to continue evolving in order to keep up with changing burdens of disease, emerging technology, changes in the health care workforce and innovations in medical practice. The following chapter describes some of these changes and outlines opportunities for the system to better meet the needs of people with chronic and complex conditions.
Australia has tried several measures to improve primary care

- Medicare introduced (replacing Medibank), bulk-billing restored, and Medicare Levy introduced
- Co-payment introduced and then abolished after three months
- Establishment of the Australian Divisions of General Practice (ADGP)
- Enhanced Primary Care (EPC) MBS items introduced
- 30% private health insurance rebate introduced
- Chronic Disease Management (CDM) items were introduced to replace the existing EPC care planning items
- Doctors required to have full vocational training prior to entering general practice
- Introduction of Divisions of General Practice (DGPs)
- The Practice Incentives Program (PIP) and General Practice Immunisation Incentives Scheme replaced the Better Practice Program following recommendations by the General Practice Strategy Review Group
- Australian Primary Care Collaboratives (APCC) Program Phase I
- Medicare Locals established
- Primary Health Networks established
- Introduction of Broader Health Cover, giving private health insurers greater ability to cover services
- Funding for 36 GP SuperClinics

Timeline:
- 1984: Doctors required to have full vocational training prior to entering general practice
- 1991-92: Medicare introduced
- 1992: Introduction of Divisions of General Practice (DGPs)
- 1996: The Practice Incentives Program (PIP) and General Practice Immunisation Incentives Scheme replaced the Better Practice Program following recommendations by the General Practice Strategy Review Group
- 1997: Establishment of the Australian Divisions of General Practice (ADGP)
- 1999-2000: Enhanced Primary Care (EPC) MBS items introduced
- 2004: Chronic Disease Management (CDM) items were introduced to replace the existing EPC care planning items
- 2007: Australian Primary Care Collaboratives (APCC) Program Phase I
- 2008-09: Medicare Locals established
- 2010: Primary Health Networks established
- 2015: Introduction of Broader Health Cover, giving private health insurers greater ability to cover services
- 2008-09: Funding for 36 GP SuperClinics
Chapter 2: Opportunities to improve care for people with chronic disease

Overall, Australia achieves excellent health outcomes. Across the OECD, for example, Australia has the second highest life expectancy (83 years) and the fourth highest self-reported health score (85 per cent) (Figure 2.1). Australia’s primary health care system also performs well in terms of disability adjusted life years (DALYs) attributed to causes that can be addressed through primary health care. Tobacco smoking, alcohol use, high-fasting plasma glucose, high total cholesterol, high blood pressure, high body mass index, low bone mineral density, dietary risks and physical inactivity together account for 0.11 disability adjusted life years per person in Australia—one of the lowest ‘primary health care-preventable burdens’ in the OECD (Figure 2.1). It must be noted, however, that health outcomes (and medical access) among Aboriginal and Torres Strait Islander populations are disproportionately worse than outcomes among non-Indigenous populations.

FIGURE 2.1

High-level primary care indicators in the OECD

<table>
<thead>
<tr>
<th>Life expectancy at birth (years) in years per capita, 2013</th>
<th>Self-reported health score (% of population aged 15+ who report their health to be good/very good, 2011)</th>
<th>Primary preventable DALYs (Number of disability-adjusted life years per 100 people, 2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>84</td>
<td>Australia</td>
</tr>
<tr>
<td>Australia</td>
<td>83</td>
<td>Canada</td>
</tr>
<tr>
<td>Italy</td>
<td>83</td>
<td>USA</td>
</tr>
<tr>
<td>Spain</td>
<td>83</td>
<td>Australia</td>
</tr>
<tr>
<td>Switzerland</td>
<td>83</td>
<td>Israel</td>
</tr>
<tr>
<td>Canada</td>
<td>82</td>
<td>Ireland</td>
</tr>
<tr>
<td>France</td>
<td>82</td>
<td>Sweden</td>
</tr>
<tr>
<td>Iceland</td>
<td>82</td>
<td>Norway</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>82</td>
<td>Iceland</td>
</tr>
<tr>
<td>New Zealand</td>
<td>82</td>
<td>Ireland</td>
</tr>
<tr>
<td>Norway</td>
<td>82</td>
<td>Australia</td>
</tr>
<tr>
<td>South Korea</td>
<td>82</td>
<td>Canada</td>
</tr>
<tr>
<td>Israel</td>
<td>82</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>Sweden</td>
<td>82</td>
<td>Belgium</td>
</tr>
<tr>
<td>Austria</td>
<td>81</td>
<td>Spain</td>
</tr>
<tr>
<td>Finland</td>
<td>81</td>
<td>Luxembourg</td>
</tr>
<tr>
<td>Germany</td>
<td>81</td>
<td>Denmark</td>
</tr>
<tr>
<td>Portugal</td>
<td>81</td>
<td>Austria</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>81</td>
<td>Turkey</td>
</tr>
<tr>
<td>Greece</td>
<td>81</td>
<td>Italy</td>
</tr>
<tr>
<td>Ireland</td>
<td>81</td>
<td>France</td>
</tr>
<tr>
<td>Netherlands</td>
<td>81</td>
<td>Finland</td>
</tr>
<tr>
<td>Belgium</td>
<td>80</td>
<td>Slovak Republic</td>
</tr>
<tr>
<td>Denmark</td>
<td>80</td>
<td>Mexico</td>
</tr>
<tr>
<td>Chile</td>
<td>80</td>
<td>Germany</td>
</tr>
<tr>
<td>Slovenia</td>
<td>80</td>
<td>Hungary</td>
</tr>
<tr>
<td>USA</td>
<td>79</td>
<td>Czech Republic</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>78</td>
<td>Chile</td>
</tr>
<tr>
<td>Poland</td>
<td>77</td>
<td>Iraq</td>
</tr>
<tr>
<td>Estonia</td>
<td>76</td>
<td>Latvia</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>76</td>
<td>Estonia</td>
</tr>
<tr>
<td>Hungary</td>
<td>75</td>
<td>Portugal</td>
</tr>
<tr>
<td>Mexico</td>
<td>75</td>
<td>South Korea</td>
</tr>
<tr>
<td>Turkey</td>
<td>75</td>
<td>Japan</td>
</tr>
</tbody>
</table>

In 2012–13, for example, Indigenous people aged 15 years and over were 0.6 times as likely as non-Indigenous people to report “excellent” or “very good” health. Indigenous Australians were also 1.9 times more likely to have asthma, 1.2 times more likely to have heart and respiratory diseases, and 3.3
times more likely to have diabetes than non-Indigenous Australians. Life expectancy is also more than 10 years lower for Indigenous Australians than non-Indigenous Australians.

In the coming decades, the primary health care system will have to respond to the increasing burden of chronic disease, which already accounts for over 90 per cent of all deaths and is the leading cause of illness and disability in Australia. Today, more than 80 per cent of Australians are estimated to have at least one chronic condition or risk factor, with hypertension identified as most common (affecting 26.3 per cent of Australians) (Figure 2.2). Australia has the highest prevalence of chronic disease among OECD countries—followed closely by Hungary (70 per cent) and New Zealand (65 per cent)—and just four chronic diseases account for 36 per cent of all health expenditure in Australia: cardiovascular diseases, oral health, mental disorders and musculoskeletal issues. The burden of chronic disease is expected to increase in the coming years, driven by both an ageing population and an increase in risk factors such as obesity and physical inactivity. In 2012, for example, the OECD reported that Australia had an obesity rate of 28 per cent—the fifth highest rate of obesity out of 34 surveyed countries. (The United States, Mexico and New Zealand reported higher levels of 30 to 35 per cent, and the OECD average was 18 per cent.)

As the prevalence of chronic disease increases, Australia’s health care system will need to evolve to meet growing population health needs and address rising health care costs, ensuring evidence-based care is provided at the right time and in the right place. Opportunities exist to:

- Improve the quality of care delivered to people with chronic disease.
- Improve consumers’ experience of primary health care, particularly with respect to care coordination and self-management.
- Improve access to primary health care, especially out of hours and in rural and remote areas.
- Ensure that the system remains economically sustainable by reducing the rate at which health care costs are growing.

The remainder of this chapter discusses these opportunities in more detail.
2.1 QUALITY OF CARE

When compared with its OECD peers, Australia performs well in terms of life expectancy, overall health and the burden of disease that can be prevented through primary health care (Figure 2.1). However, there are three areas in which Australia could improve the quality of care it offers people with chronic disease:

- **Monitor quality**: At present, Australia has no systematic way of comparing quality across primary health care clinicians, which makes it difficult to assess the quality of care received by people with chronic diseases. Other countries have been much more proactive in this area. The United Kingdom, for example, introduced comprehensive practice-level monitoring as part of its Quality and Outcomes Framework (QOF), and in 2010, the Affordable Care Act introduced public reporting of performance measures on quality and cost in the United States. While the Australian Commission on Safety and Quality in Health Care (ACSQHC) has outlined practice-level indicators for the safety and quality of primary health care, these have not been ratified and they are not actively monitored or incentivised. For effective clinical governance, data need to be collected more effectively at the practice level through the participation of clinicians.

- **Adhere to clinical guidelines**: In 2012, the Care Track study highlighted that clinical guidelines are often not followed in Australia, particularly for people with chronic health conditions. For example, clinical guidelines were only followed for 63 per cent of people with...
diabetes, and 38 per cent of people with asthma. Similarly, a recent study of over 7,000 people with diabetes in Australia found that 51 per cent of people with out-of-range cholesterol were not taking hypolipidaemic medication, 53 per cent of people with out-of-range systolic blood pressure were not prescribed anti-hypertensive medication, and only 35 per cent of people had the components of an annual cycle of care recorded in their notes. The Diabetes Care Project (DCP) also found that only 35 per cent of consumers participating in the project had completed an annual cycle of care at baseline. Australia’s immunisation rates, which are low relative to its OECD peers, similarly demonstrate that adherence to clinical guidelines could be improved (Figure 2.3).

- **Reduce medication errors:** A systematic review of Australian evidence demonstrated that care is negatively affected by poor information sharing, and that some people suffer from adverse drug events as a result. Indeed, 2 to 4 per cent of all hospital admissions were found to be medication-related hospitalisations (i.e., caused by medications that should not have been administered in combination), and this figure rose to 30 per cent among people over the age of 75. Three quarters of these medication-related hospital admissions were found to be potentially preventable. In 2010, according to the Australian Bureau of Statistics (ABS), more than 5 per cent of people aged 15 years and over reported receiving medication, medical care, treatment or a test that caused harm or a harmful side effect at some point during the previous year.

**FIGURE 2.3**

<table>
<thead>
<tr>
<th>Child immunisation in the OECD</th>
<th>Measles immunisation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diphtheria, Tetanus, Pertussis immunisation rate</strong></td>
<td><strong>% of children immunised, 2013</strong></td>
</tr>
<tr>
<td>Belgium</td>
<td>99</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>99</td>
</tr>
<tr>
<td>France</td>
<td>99</td>
</tr>
<tr>
<td>Greece</td>
<td>99</td>
</tr>
<tr>
<td>Hungary</td>
<td>99</td>
</tr>
<tr>
<td>Korea</td>
<td>99</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>99</td>
</tr>
<tr>
<td>Poland</td>
<td>99</td>
</tr>
<tr>
<td>Portugal</td>
<td>99</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>99</td>
</tr>
<tr>
<td>Turkey</td>
<td>99</td>
</tr>
<tr>
<td>Finland</td>
<td>98</td>
</tr>
<tr>
<td>Germany</td>
<td>97</td>
</tr>
<tr>
<td>Israel</td>
<td>97</td>
</tr>
<tr>
<td>Sweden</td>
<td>98</td>
</tr>
<tr>
<td>Turkey</td>
<td>98</td>
</tr>
<tr>
<td>Italy</td>
<td>97</td>
</tr>
<tr>
<td>Netherlands</td>
<td>97</td>
</tr>
<tr>
<td>Canada</td>
<td>97</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>96</td>
</tr>
<tr>
<td>Germany</td>
<td>96</td>
</tr>
<tr>
<td>Australia</td>
<td>96</td>
</tr>
<tr>
<td>Estonia</td>
<td>96</td>
</tr>
<tr>
<td>Slovenia</td>
<td>96</td>
</tr>
<tr>
<td>Switzerland</td>
<td>96</td>
</tr>
<tr>
<td>Norway</td>
<td>96</td>
</tr>
<tr>
<td>Switzerland</td>
<td>94</td>
</tr>
<tr>
<td>Belgium</td>
<td>93</td>
</tr>
<tr>
<td>New Zealand</td>
<td>92</td>
</tr>
<tr>
<td>Iceland</td>
<td>92</td>
</tr>
<tr>
<td>United States</td>
<td>91</td>
</tr>
<tr>
<td>Chile</td>
<td>89</td>
</tr>
<tr>
<td>Italy</td>
<td>89</td>
</tr>
<tr>
<td>Denmark</td>
<td>89</td>
</tr>
<tr>
<td>France</td>
<td>89</td>
</tr>
<tr>
<td>Mexico</td>
<td>83</td>
</tr>
</tbody>
</table>
2.2 CONSUMER EXPERIENCE

Australians are generally happy with the primary health care they receive.46 According to the latest ABS survey results, 72 per cent of people who saw a GP in the past 12 months reported that the GP always listened carefully to them, 78 per cent reported that the GP always showed them respect, and 72 per cent reported that the GP always spent enough time with them.47 Australians also have a high self-reported health score of 85.4 per cent, which places Australia fourth amongst all 34 OECD peers on this measure.31

There are, however, three opportunities for improvement:

- **Engage more effectively with people with chronic conditions:** According to Commonwealth Fund survey results, Australia ranks fifth behind the United Kingdom, Switzerland, the United States and Canada on consumer engagement. (Only 48 per cent of people with long-term cases felt engaged in Australia, compared with 69 per cent of people in the United Kingdom; Figure 2.4).48,49 While there are many self-management support programs in Australia, it has been argued that these are not typically integrated or coordinated.50

FIGURE 2.4

### Engagement and availability in the OECD

<table>
<thead>
<tr>
<th>Patient engagement in long-term cases</th>
<th>Availability for advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>% patients that felt engaged, 2011</td>
<td>% chronic patients with place to go to ask for advice, 2014</td>
</tr>
<tr>
<td>United Kingdom 1</td>
<td>USA 1</td>
</tr>
<tr>
<td>Switzerland 2</td>
<td>Netherlands 2</td>
</tr>
<tr>
<td>USA 3</td>
<td>New Zealand 3</td>
</tr>
<tr>
<td>Canada 4</td>
<td>Sweden 4</td>
</tr>
<tr>
<td>Australia 5</td>
<td>United Kingdom 5</td>
</tr>
<tr>
<td>New Zealand 6</td>
<td>Canada 6</td>
</tr>
<tr>
<td>Netherlands 7</td>
<td>Australia 7</td>
</tr>
<tr>
<td>Germany 8</td>
<td>Switzerland 8</td>
</tr>
<tr>
<td>France 9</td>
<td>Norway 9</td>
</tr>
<tr>
<td>Norway 10</td>
<td>France 10</td>
</tr>
<tr>
<td>Sweden 11</td>
<td>Germany 11</td>
</tr>
</tbody>
</table>

1 Engagement across these three parameters:
a) discussed your main goals/priorities,
b) helped make treatment plan you could carry out in daily life,
c) given clear instructions on symptoms and when to seek care
- **Improve communication between clinicians about consumers**: A 2013 ABS survey found that 14.3 per cent of people who saw three or more health professionals for the same condition reported issues caused by a lack of communication between health professionals. People living in outer regional, remote or very remote areas of Australia were more likely to report issues caused by a lack of communication between health professionals than those living in major cities in Australia (18.6 per cent and 13.2 per cent, respectively).

- **Improve the availability of health advice**: According to a 2014 Commonwealth Fund survey results, Australia ranks seventh (out of 11 countries) on the self-reported availability of chronic health advice, with only 65 per cent of people reporting that they knew how to get advice. This suggests that when an urgent medical question arises, 35 per cent of consumers in Australia either hesitate to call their GP or nurse or cannot get in touch with a health professional.

### 2.3 ACCESS TO CARE

Australians generally have good access to primary health care, with more than 80 per cent of Australians visiting a GP within a 12-month period. To a large extent, this reflects the availability of bulk billing (i.e., government funding) for GP services, which is accessed in 82 per cent of GP encounters. In terms of the average number of GP visits per person per annum, Australia is ranked 10th out of 24 of its OECD peers (Figure 2.5). Australia also has a high number of GPs per 1,000 people, compared to other OECD countries (Figure 2.5). It is worth noting that there is not a strong link between having more GPs or GP visits and the quality of primary health care.
There are, however, three opportunities to improve access to care in Australia:

- **Provide greater access in rural and regional areas:** The 2013–14 ABS survey found that nearly one in three people living in outer regional, remote or very remote areas waited longer than they felt was acceptable to get an appointment with a GP, compared with just over one in five people in major cities. A comparison of rural and metropolitan Medicare Locals also revealed substantially lower primary health care service utilisation in rural areas (Figure 2.6), as well as substantial variation between regions in terms of utilisation of MBS-funded allied health services (Figure 2.7), both of which may point to access and availability issues. In 2013, for example, there was a 40-fold difference between the Medicare Locals that utilised MBS-funded allied health services the most and those that utilised these services the least. A report by the Grattan Institute estimates that gaps in rural GP access, which have often persisted for decades, can be eliminated by implementing internationally tested approaches. The first approach involves training pharmacists (who are more easily accessible) to vaccinate against disease and issue prescriptions. The second approach introduces physician assistants (PAs), who can diagnose, prescribe and treat a wide range of health problems under the supervision of a GP and, in doing so, lighten the workload of GPs. The Grattan Institute also argues that these reforms are affordable; in 2011–12, for example, it would have cost $30 million to fill the worst access gaps. In addition to these suggestions by the Grattan Institute, nurse practitioners (NPs) are also improving access for rural and remote consumer care.
FIGURE 2.6

Variation in primary care service utilisation in Australia
Annual number of primary health care services¹ per person by Medicare Local, FY 2013

1 Primary Health Services consist of a) GP and other non-referred attendances including Consulting Room and Residential Aged Care Facility attendances; b) PIP Incentives related Services; c) Health Assessments; d) Mental Health Services; e) After Hour Services; f) Chronic Disease Related Services; g) Other

FIGURE 2.7

Variation in MBS Allied Health service utilisation in Australia
Annual number of allied health visits per person by Medicare Local, FY 2013
■ **Provide greater access to out-of-hours primary health care (non-emergency department):** Australia ranks 9th out of 11 OECD nations in terms of non-emergency department, out-of-hours care, with 46 per cent of people reporting access issues (Figure 2.8). Researchers at the University of Wollongong also found an alarmingly high frequency of emergency department (ED) presentations among people over 65 years of age where an afterhours GP service would have been more suitable, but was avoided due to cost concerns. Access could also be provided in alternative ways such as via the phone, e-mail or telehealth.

■ **Provide access to care in a more timely manner:** Australia ranks 5th out of 11 peers in terms of being able to book a GP appointment within 48 hours (46 per cent of people had access issues) (Figure 2.8). People who cannot obtain timely access may choose to go to hospital, where the cost of care is much higher, or to avoid care altogether, which often leads to a deterioration in their condition.

**FIGURE 2.8**

<table>
<thead>
<tr>
<th>Country</th>
<th>Non-ED after-hours access</th>
<th>Timely primary care access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% chronic patients without access problems, 2014</td>
<td>% patients able to book appointments within 48hrs, 2014</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>France</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Norway</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Switzerland</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Germany</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>USA</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Australia</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Canada</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Sweden</td>
<td>11</td>
<td>3</td>
</tr>
</tbody>
</table>

**2.4 COST AND SUSTAINABILITY**

Australia’s health system is relatively expensive, and the current and predicted growth in cost is unsustainable. While Australia performs better than most OECD countries in terms of health care spending as a percentage of gross domestic product or GDP (ranked 8th out of 24 peers; Figure 2.9), this is heavily influenced by its high nominal GDP per capita (Australia is ranked fifth in nominal GDP per capita). When measured in absolute terms (i.e., health expenditure per capita in US dollars at
purchasing power parity), Australia is ranked 15th out of 24 peers (Figure 2.9), spending 34 per cent more than New Zealand and 15 per cent more than the United Kingdom. Despite this, Australia only spends 1.9 per cent of its health expenditure on prevention and public health services (per capita in US dollars at purchasing power parity of 2005) and is ranked 19th out of the 22 OECD countries that report on this metric (Figure 2.9).

The rate at which costs are growing is also unsustainable. Since 1993, costs have risen at an average rate of 8 per cent per year. This rate of increase is greater than Australia’s GDP growth, which means that health care costs have risen from 7.3 per cent of Australia’s GDP in 1993 to 9.1 per cent in 2011 (Figures 2.9 and 2.10). This growth is primarily driven by hospital costs, although Medicare costs have also increased.

Primary health care professionals are estimated to control or influence approximately 80 per cent of health care costs, which means that they have an important role to play in ensuring that health expenditure remains sustainable. There are two main opportunities to achieve this:

- **Target preventable hospitalisations for people with chronic disease.** The rate of potentially preventable hospitalisations (PPHs) reflects the appropriateness of Australia’s primary and community health services, particularly for people with chronic diseases. PPHs currently account for approximately 6.2 per cent of hospitalisations nationally (8.1 per cent in public hospitals and 3.4 per cent in private hospitals), and Australia’s preventable hospitalisation rate per 100,000 people for chronic diseases such as asthma, chronic pulmonary disease, congestive heart failure and diabetes is higher than in the United Kingdom and Canada (Figure 2.11). Indeed, while preventable hospitalisation rates in the United Kingdom decreased by 10 per cent between 2008 and 2011, they remained relatively constant in Australia over the same time period, despite the introduction of initiatives such as the Enhanced Primary Care program (EPC). Overall, Australia ranks 13th for total preventable hospital admissions per 100,000 of population, out of a group of 19 OECD peers (Figure 2.11). While there are some limitations around different data collection methods amongst this group of countries, this nonetheless highlights a substantial opportunity for improvement for Australia.

- **Ensure value for the money invested in primary health care for people with chronic disease.** There are opportunities to improve the value for money delivered by MBS chronic disease funding, which includes care plan and team care arrangements. Funding for these items increased at a rate of 25 per cent per annum between 2006 and 2014 and now costs more than $848 million per year. There is substantial evidence that multidisciplinary care plans, when designed and implemented properly, can improve outcomes for people with chronic disease and can therefore reduce chronic disease expenses in the long term. In Australia, however, this funding is not targeted at people with higher needs or higher chances of hospitalisation, and it does not sufficiently incentivise long-term follow-up, both of which are critical to reducing cost. Indeed, a prospective analysis of current chronic disease funding found little to no relationship between the complexity of a person’s health care needs and the
amount of chronic disease funding they received. For example, people did not receive substantially more resources if they had high HbA1c levels, systolic blood pressure or cholesterol, or if they had multiple chronic diseases or were more likely to require hospitalisation in the next year.

FIGURE 2.9
FIGURE 2.10

Historical breakdown of Australian government health expenditure
Australian government healthcare expenditure, 1 AUD billions

1 Excluding State expenditure on items other than hospitals

FIGURE 2.11

Preventable hospital admissions in the OECD
Selected preventable hospital admissions
Admissions per 100,000 population, 2011

1 2011 data for most countries. Exceptions: for some countries only prior data is available (2006–2010). Newer data is used (2012–2013) when available.
If Australia can improve the quality of care, consumers’ experience of care, and access to care, while ensuring that the primary health care system remains economically sustainable, it will be better prepared to meet the growing burden of chronic disease and the health care implications of an ageing population. In order to identify where and how improvements can be made, Chapter 3 introduces four critical dimensions of a health care system: governance and financing, consumer interaction with the health system, primary health care professionals, and systems and processes. Chapters 4 to 7 then discuss each dimension in detail, outlining how the system works in Australia across each dimension and summarising alternative approaches that have been adopted around the world.
Chapter 3: The dimensions of primary health care

Primary health care is a multidisciplinary system that provides consumers with a first point of contact and continuous care. There are a multitude of different frameworks for structuring primary health care models, most of which build on Donabedian’s Model for Assessment of Quality of Care. This model measures systems based on their structures, processes and outcomes.

The framework for this paper is based on a review of other primary health care systems and different health system models, with a focus on the structural and process components that are particularly relevant to caring for people with chronic disease (Figure 3.1). It identifies 13 primary health care model elements, which can be divided into four categories: governance and financing, consumer interaction with the health system, primary health care professionals, and systems and processes.

While the components of this model are each discussed separately, they do not function in isolation. Instead, they work together as part of a complex system, each affected by and affecting the other components. Acknowledging these connections is critical to identifying an appropriate blend of components that meets the specific needs of a health care system and is appropriate for its economic and social context.

FIGURE 3.1
- **Governance and financing**: How primary health care systems are structurally organised and the financial flows that enable them. This includes:
  - **Governance structure**: The organisational management and governance structure of the primary health care system and its integration with secondary and aged care.
  - **Funding sources**: The means by which a primary health care system receives its funding, including government, private sector and consumer sources of funding.
  - **Funding mechanisms**: Methods of distributing funds across the primary health care system and from payers to providers, including fee-for-service payments, payment for outcomes, capitation and other methods.

- **Consumer interaction with the health system**: The elements of primary health care that determine how consumers relate to the system. This includes:
  - **Consumer segmentation**: This identifies which people to focus on and determines how resources are allocated.
  - **Medical homes and enrolment**: The ability of consumers to enrol in medical homes, which provide longitudinal care for a population of people.
  - **Education and self-management**: Mechanisms to help consumers understand and manage their conditions independently.

- **Primary health care professionals**: The role of the health professional workforce in primary health care, which is critical to the outcomes and sustainability of the system. This includes:
  - **Clinical leadership**: The involvement of clinicians in driving improvement and the progression of primary health care delivery.
  - **Workforce composition and roles**: The roles and responsibilities of general practitioners, nurses, allied health professionals and specialists in primary health care delivery.
  - **The provision of care coordination**: The person(s) responsible for coordinating communication and activities between consumers and health professionals, who may be a GP or specialised coordinator.

- **Systems and processes**: The organisational systems and processes that facilitate care delivery, including information flows and performance reviews. This includes:
  - **Digital health**: The systems and electronic tools that improve access and quality of care for consumers, enable clinicians to make more informed decisions, enhance the connectivity between primary and secondary care, or reduce costs for providers and payers.66
– **Information transparency:** The data captured by the health system and made transparent to stakeholders, including health care professionals (for example, in relation to how individual health care professionals deliver care in comparison with peer benchmarks) and consumers (for example, in relation to their health and the way in which they interact with the health care system).

– **Continuous quality improvement processes:** The methods and tools used to ensure that the quality of care provided by primary health care professionals is continually improving.

– **Care pathways:** The protocols used by health care professionals to standardise care across consumers, with the aim of reducing variation between health care professionals.

The following four chapters focus on these four dimensions of primary health care: Chapter 4 focuses on governance and financing, Chapter 5 focuses on how consumers interact with the primary health care system, Chapter 6 focuses on primary health care professionals, and Chapter 7 focuses on systems and processes. Each chapter discusses the different components of these dimensions, outlining the systems currently in place in Australia and summarising alternative approaches that have been adopted internationally.
Chapter 4: Primary health care governance and financing

This chapter explains how primary health care systems are structurally organised and outlines the financial flows that enable them. It is divided into three sections:

- **Governance structure**: The organisational management and governance structure of the primary health care system and its integration with secondary and aged care.

- **Funding sources**: The means by which a primary health care system receives its funding, including government, private sector and consumer sources.

- **Funding mechanisms**: The methods of distributing funds across the primary health care system and the flow of money from payers to providers, including fee-for-service payments, payment for outcomes, capitation, and other methods.

### 4.1 GOVERNANCE STRUCTURE

Primary health care governance structures are the organisational constructs that enable governmental bodies and professional associations to exert influence over resources, codes of practice and care delivery.¹⁰ Primary health care governance structures are organised both at the macro level (where national or regional agencies are responsible for policy, funding strategy and enabling infrastructure) and at the meso level (where local agencies are responsible for commissioning, linking and enabling the local primary health care sector).¹⁷ The core role of a governance structure is to ensure that a health system has a strong sense of direction, efficiently utilises resources, and responds to population needs by providing safe, cost-effective and high-quality care.¹⁸ There is broad agreement that the best way to achieve this is to promote integration of primary, secondary and aged care in order to maximise coordination between providers and optimise resource allocation across the system.¹⁶,¹⁸,¹⁹

#### 4.1.1 Australia’s system

In Australia, macro-level responsibility for primary and secondary care is divided between the Commonwealth and state governments (Figure 4.1). The primary health care system is managed by the Department of Health on behalf of the Commonwealth Government¹⁶ and is funded through Medicare—automatic, universal health care insurance for all citizens and permanent residents.¹⁶ In contrast, hospital-related health services are primarily managed and funded by state governments at the macro level (through a combination of activity-based funding and grants) and by local hospital networks at the meso level.
In 2009, the National Health and Hospitals Reform Commission argued that there was “widespread dissatisfaction with the consequences of the split in funding responsibilities—the fragmentation of services, perverse financial incentives that lead to underfunding parts of the health care continuum, the duplication and administrative waste, and difficulties navigating a complex system.” \(^7^0\) The Productivity Commission echoed this sentiment in 2015: “Australia’s health system is large, fragmented and complex... [N]o single organisation has full responsibility for health, and in many areas responsibilities overlap... [T]his can result in cost shifting, waste, gaps in service delivery, or an unwillingness for any single party to take leadership for reform.” \(^7^1\) In the context of caring for people with chronic diseases, the main drawback of this division in responsibilities is the risk that preventative care will become deprioritised. For the Commonwealth Government, for example, it may not make sense to fund preventative programs because it only receives downstream benefits through reduced hospitalisations. At the same time, however, state governments’ ability to invest in prevention programs is limited because they do not control critical primary health care levers, such as funding and primary health care provider performance management.

In recent years, two main initiatives have been implemented to improve this situation. Firstly, activity-based funding for secondary care was introduced in 2014, and the Commonwealth now provides 45 per cent of the cost of efficient growth (until 2017/18). \(^7^2\) This creates an incentive for the Commonwealth Government to assist in reducing the volume of inpatient care through better primary health care management. Secondly, the Commonwealth Government established Medicare Locals in 2011, which were replaced by PHNs in July 2015. \(^4\) These meso-level organisations are responsible for improving health care effectiveness and efficiency in their regions, with an immediate focus on developing collaborative working partnerships with Local Hospital Networks (LHNs) and private hospitals, consolidating services, and improving performance measures related to population health. \(^7^3\) In doing so, they are expected to create formal joint board positions, local memoranda of understanding (MOUs) and a commitment to collaborative approaches to care delivery. \(^6^8\)
4.1.2 Alternative approaches

It remains to be seen whether the introduction of activity-based hospital funding and PHNs can overcome the challenges associated with coordinating primary and secondary care and increasing Australia’s focus on preventative care for people with chronic disease. In the meantime, however, Australia can draw upon the experiences of other health care systems and the structures they have adopted for primary health care governance. Internationally, there are three main approaches to primary health care governance:

- Macro-level integrated governance structures
- Meso-level integration with combined funding pools
- Meso-level integration without combined funding pools

**Macro-level integrated organisational structures**

Some systems have a single, macro-level governance structure that spans both primary and secondary care. This approach has two important benefits: (1) It makes it easier to standardise care delivery and infrastructure (e.g., electronic health systems, accreditation systems, care pathways); and (2) it allows systems to more easily optimise resource allocation across primary and secondary care. Systems with
this design have a strong incentive to invest in prevention services for people with chronic disease because they receive the downstream benefits of reduced hospitalisation costs.68

One example of a large health system with a single, macro-level governance structure that spans primary and secondary care is Kaiser Permanente (KP) in the United States. People in the United States do not have a universal entitlement to health care and, unless they are eligible for state-funded health insurance (i.e., Medicare for the elderly or Medicaid for people with low incomes), they must make their own provisions. In this market-based system, KP is the largest non-profit private insurance health plan and integrated delivery system of primary and secondary care in the United States, serving 9.4 million members.75 KP’s integrated system consists of three distinct entities: Kaiser Foundation Health Plans, Kaiser Foundation Hospitals and Permanente Medical Groups.51 Kaiser Foundation Health Plans offer comprehensive health care services for members, provided through exclusive contacts with Kaiser Foundation Hospitals and Permanente Medical groups.76 The integrated model aligns incentives for the payer and provider to encourage preventative, well-coordinated primary health care, which in turn reduces secondary care costs. KP is one of the lowest cost systems in the United States, and its health plans have been ranked the best in the United States for the fourth consecutive year by the National Committee for Quality Assurance (NCQA) Health Insurance Plan Rankings 2014–15.77

Another example closer to home is Australia’s Department of Veterans’ Affairs (DVA), which manages the funding of both primary and secondary care for Gold Card holders (war veterans, war widows or widowers and their dependants.)78 This single, macro-level organisational model means that the DVA makes decisions about how to allocate resources to different services. For instance, recognising that people with chronic disease were becoming an increasingly significant driver of hospital costs, the DVA established the Coordinated Veterans’ Care (CVC) program in 2011, which aims to improve the management of chronic disease for the 10 per cent most at-risk people with complex care needs.79 GPs are offered financial incentives to enrol eligible Gold Card holders into the program and provide ongoing comprehensive care, including care plans, dedicated nurse coordinators and tools for better self-management.78,79 By June 2014, over 25,000 Gold Card holders had been enrolled.80 A 2013 interim evaluation report found improvements to potentially avoidable hospitalisation rates, better self-management and social connectedness, and generally positive feedback from practices and Gold Card holders.80 Final evaluations of the program are not yet publicly available.

While elegant in principle, this approach is not without its drawbacks, however. Firstly, it is challenging to shift an existing system with separate governance structures to align with this model. (In each of the examples described above, the governance model was adopted when the system was established, thus avoiding this challenge.) The second drawback of relying on a centralised approach to integrate care is that it may take the administration of care away from local organisations, which are best positioned to understand the unique needs of resident populations. For this reason, New Zealand, the United Kingdom and Canada are all shifting away from centralised governance towards tailored regional approaches, built around meso-level agencies responsible for integrating care locally.81
Meso-level integration with combined funding pools

In some systems, integration has occurred at the meso level through the establishment of shared governance models and pooled funding. These systems aim to push decision making closer to the consumer, and they facilitate improved optimisation of resources across the primary and secondary care systems. The pooling of funding also provides an incentive to invest in preventative care in order to reduce downstream hospital costs.82–84

Examples of this approach can be found in the United Kingdom’s National Health Service (NHS). Prior to the passage of the 2012 Health and Social Care Act, meso-level regional agencies (known as Primary Care Trusts or PCTs) were accountable for funding 80 per cent of the country’s health services across primary and secondary care.81,85 In the wake of the Health and Social Care Act, however, these PCTs were abolished, and responsibility for funding was instead divided between the NHS Commissioning Board (which funds primary health care and some specialised services) and Clinical Commissioning Groups (CCGs), which fund secondary and community care. This created a situation similar to Australia—a split between primary and secondary care governance—which has been widely criticised.85

To reduce the impact of this division in responsibilities, some parts of the United Kingdom decided to pool funds from CCGs and local authorities (which fund social care) to create an integrated budget for activities that drive integration across settings of care, including care planning, care coordination, discharge management and rapid response services. In North West London, for example, the eight CCGs agreed on a set of interventions that would be necessary to tackle the lack of coordination for people with chronic conditions. They worked with the Commissioning Board and local authorities to create a joint pool of funding, which included new investment and repurposed existing funding (such as GP services for people with diabetes), to contract for these services. Implementation of this new bundle of services in the Integrated Care Programme pilot led to a 4 per cent reduction in non-elective admissions for consumers aged 75 and over between 2010–11 and 2011–12, compared with an 8 per cent increase in non-elective admissions in non-participating practices.

New Zealand has also moved to enhance integration between primary and secondary care through shared meso-level funding systems. New Zealand’s health model is primarily publicly funded and is administered by the Ministry of Health, which funds 20 district health boards (DHBs) across the country.16 Since 2001, the majority of the population (approximately 95 per cent) has voluntarily enrolled in networks of self-employed providers, known as primary health organisations (PHOs), which are funded by the DHBs. PHOs receive funding through capitation, which is adjusted for age, gender, health status, utilisation of services and other health risk-related factors.16 While the overall impact of the PHO program on the integration of care has yet to be determined,86 certain innovations are already having an impact. In Auckland, for example, Counties Manukau District Health Board’s 20,000 Days Campaign focused on integrating local health organisations and individuals through 13 different community-based collaborations.87,88 Over the course of two years, the campaign exceeded its target, reducing hospital bed days by over 23,000 through a combination of reduced admissions, readmissions and average length of stays.87–89 In doing so, the campaign achieved significant financial savings for Counties Manukau and greatly improved consumer empowerment and education. The
program attributes its success to five factors: common goal alignment, leadership support, multidisciplinary teams from primary and secondary care, application of the Model for Improvement, and structured milestones.\textsuperscript{87} The Safer Medicines Outcomes On Transfer Home (SMOOTH) initiative estimated saving nearly NZD $300,000 per annum through the prevention of medication-related readmissions.\textsuperscript{87} Counties Manukau has now shifted into phase 2 of the program (Beyond 20,000 Days), with a focus on implementing the collaboration changes permanently and expanding the program.\textsuperscript{87}

Meso-level integration was also introduced in Australia during the 1990s and early 2000s through two rounds of coordinated care trials initiated by the Australian Government.\textsuperscript{90} The first round was divided into nine trials, each testing whether incorporated pooled funds from existing programs, devolved purchasing and formal care coordination could remove program barriers to clinical integration and strengthen the role of doctors as gatekeepers to diagnostic and specialist services.\textsuperscript{90} For example, SA Health Plus—the largest trial—aimed to provide new service delivery and funding systems for people with chronic diseases by utilising fund pooling, structured care planning and consumer-centred care.\textsuperscript{90} This trial demonstrated improvements in health and well-being among some participants, but it did not produce a sufficient reduction in hospital admissions to cover the costs of coordinated care. A national evaluation of the first round of the trial found that outcomes did not improve and that higher health service use and costs were incurred, although some participants reported a positive experience and some care coordinators perceived that the trial benefitted their patients.\textsuperscript{90} The limited success of the trial was believed to stem from its short timeframe and inappropriate measures and program design.\textsuperscript{90} The second round of the trial produced better outcomes, suggesting that financial strategies can drive improvements in particular consumer groups but are unlikely to improve outcomes without linkage to clinical strategies.\textsuperscript{90}

While examples such as these demonstrate the promise of meso-level integration with combined funding pools, national rollout of the approach could be inefficient if it is not well coordinated. Local organisations have to agree to cooperate and design their own models, which can be time consuming and costly and may result in duplicated effort across regions. The lack of standardisation between regions could also add to central administrative costs at the national level.

**Meso-level integration without combined funding pools**

Some systems try to achieve shared governance without pooled funding between primary and secondary care—an approach that can be easier to negotiate between relevant agencies. However, because this approach does not directly align incentives for different organisations to cooperate, it is very difficult to implement successfully and in many systems has proved impossible.\textsuperscript{82} Australia has attempted to implement this approach in various pilot programs. In 2013, for example, Inner-North West Melbourne developed a partnership between Inner North West Melbourne Medicare Local (INWMML), two community health services and the Melbourne Health LNH.\textsuperscript{91} The arrangement concentrated on building a collaborative approach to developing care pathways, chronic disease...
management, afterhours access, advanced care planning and integrated mental health services. This arrangement ultimately aims to reduce avoidable hospitalisations and improve care, but results on its success are not yet available. Similarly, the Peninsula Model for Primary Health Planning is a catchment-based partnership between local health organisations, hospitals and community care organisations in Frankston and the Mornington Peninsula, Victoria. Although local governments, LHNs and PHNs maintain responsibility for their own governance, each organisation actively endorses and allocates dedicated resources to support the Peninsula Model. Strategic planning, monitoring and coordination is managed by the Primary Care Population Health Committee (PCHP), and the Peninsula Model Executive Group (PMEG), and working group members from service providers redesign services to improve coordination and outcomes. Currently, there are no formalised evaluations of program results or effectiveness.

Locally led integration is also being trialled in New South Wales (NSW) as part of its integrated care strategy. The four-year trial, which commenced in 2014, attempts to transform health care by shifting focus from hospitals as the centre of care to a broader view that encompasses primary and community care. Consumers are enrolled into the trial at three demonstrator sites in Local Health Districts (LHDs) in Western NSW, the Central Coast and Western Sydney, where care delivery will be co-managed by health professionals in primary and secondary care. Joint partnerships between Medicare Locals and LHDs will focus on four concepts: shared care planning, IT infrastructure, care facilitation and GP and consumer engagement. Results from this trial are not yet available.

4.2 FUNDING SOURCE(S)

Health systems can be funded through public financing, private financing, or a combination of the two. Public funding (also referred to as national health insurance) is sourced through general government revenues (taxation) or social health insurance contributions (compulsory contributions to health financing). Private funding is sourced through private health insurance, independent out-of-pocket contributions or social donations by charities. Systems aim to raise funds through the most equitable and efficient combination of sources, but there is ongoing debate about the optimal mix of funding. Most OECD countries or developed health care systems adopt partial or full public funding in an attempt to achieve policy goals of quality, cost and access (Figure 4.2), and there is some evidence to suggest that this is a reasonable way of balancing efficiency and equity.

4.2.1 Australia’s system

Taxation accounts for approximately 68 per cent of total health care expenditure, which is relatively low in comparison with other OECD countries (Figure 4.2). Medicare, which supports access to general practice and other medical services, is publicly funded through general taxation and a 2 per cent means-tested income tax. In 2012–13, 82 per cent of GP services were bulk billed (i.e., practitioners billed Medicare directly without an additional charge to consumers). If primary health services are not fully or wholly covered by Medicare (see Section 4.3.1 on how Medicare allocates...
funds), the gap is funded through out-of-pocket contributions by individuals.\textsuperscript{97,17} In 2012, Australians spent nearly $2.9 billion on primary health care out-of-pocket medical services expenses for ‘gap payments,’ accounting for approximately 12 per cent of total out-of-pocket health care expenditure (including pathology and imaging services).\textsuperscript{98} Other primary health care services (such as those provided by allied health professionals) are supported by state and territory governments, non-governmental organisations (NGOs), private health insurance or out-of-pocket contributions from individuals.

Consumers have an option to purchase two different types of private health insurance: hospital cover for inpatient services, or general treatment (also known as ‘extras’) for dental, physiotherapy and other allied health services.\textsuperscript{99} Legislation in Australia prohibits private health insurers from covering general practice services with an MBS reimbursement.\textsuperscript{4} This is contested by private health insurers, who have a financial incentive to provide members with better preventative primary health care in order to capture savings from reduced hospitalisations.\textsuperscript{71}

**FIGURE 4.2**

![Primary and secondary total health expenditure funding](image)

Note: % of total public funding calculated based on data extracted between 2006-2014.

Despite these regulatory restrictions, some private health insurers have attempted to provide their members with benefits in primary health care. In early 2014, for example, Medibank Private trialled a GP Access Program in selected Queensland clinics to improve members’ access to primary health care.\textsuperscript{71} The program aimed to offer members guaranteed same-day appointments (if booked before 10am), fee-free consultations and afterhours GP home visits (conditional on location), avoiding any
breach of legislation by funding management services rather than reimbursing for care.\textsuperscript{100} Medibank claimed that the initiative could improve outcomes, reduce avoidable hospitalisations and therefore reduce insurance premiums.\textsuperscript{71} Later in 2014, Medibank also launched its CarePoint integrated care trial, which aimed at improving clinical outcomes for consumers with complex or chronic diseases.\textsuperscript{71}

\subsection*{4.2.2 Alternative approaches}

Internationally, two alternative approaches are being implemented:

- Create a prominent role for private health insurers in primary health care
- Introduce mandatory co-payments for primary health care

**A prominent role for private health insurers in primary health care**

Determining the appropriate role for private insurers in primary health care is typically considered a politically controversial decision because of the multiple economic and social trade-offs. Those who support this approach claim that expanding the role of insurers in primary health care could potentially lead to several benefits for consumers, both because it would enable insurers to become more involved in coordinating effective care interventions, and because it would encourage greater preventative care.\textsuperscript{71} This could be particularly beneficial for people with chronic diseases or complex needs, given that insurers have an incentive to use primary health care in innovative ways to avoid more expensive secondary care costs. Insurers also argue that by better managing primary health care, premiums could ultimately be driven down to create a more stable private health insurance market.\textsuperscript{71}

There are a number of examples of health insurers providing excellent primary health care around the world. Intermountain, for example, is a health care system in the United States that consists of three interdependent groups: Intermountain Health Services, Intermountain Medical Group and Select Health (previously Intermountain Health Plans).\textsuperscript{101} Its private health insurance division, which covers over 700,000 consumers, offers programs to help coordinate care and educate members about health issues, which are usually targeted at consumers with more complex health needs.\textsuperscript{101} Members with diabetes, for example, are assigned a nurse care manager to teach them about managing their condition, identify available resources and help them navigate the health system.\textsuperscript{101} SelectHealth also offers Member Advocates—a service that helps to match consumers with available doctors and schedule appointments, and which offers seamless access to medical records, claims and health information through its \textit{MyHealth} online portal.\textsuperscript{101} Participants in Intermountain’s Diabetes Care Management System (DCMS) program experienced statistically significant improvements in performance metrics, including an increase of approximately 11 per cent in the number of consumers receiving at least one annual HbA1c test, and an increase in the number of people with an HbA1c value below seven (from 33.5 per cent to 52.8 per cent between 1998 and 2002).\textsuperscript{102}

Although not an example of a private insurer, AOK—Germany’s largest public health insurance fund—seeks to offer options to continuously improve services for its members.\textsuperscript{103} Structured treatment plans
for people with chronic disease, for example, involve disease management programs (DMP), scientific monitoring and integrated quality management. Studies on the impact of these initiatives found that DMPs improved health behaviours during the first two years of participation, including an increase in the number of people quitting smoking (from 23 per cent to 32 per cent in Rhineland, and from 22 per cent to 28 per cent in Hamburg) and changes in eating habits (among 80 per cent of participants). Positive consumer experience results were also noted. Fifty-six per cent of those involved in the DMPs agreed that the quality of care had improved.

While there are examples of insurers creating positive outcomes in primary care, expanding the role of private health insurers in an Australian context typically raises several criticisms focused on equity of access. Due to multiple market failures, health care markets tend to require regulatory assistance from governments in order to protect consumer interests, create effective competition, and prevent the creation of a two-tiered health system in which privately insured consumers receive privileged access to care. Additionally, increasing the role of private health insurers to cover GP ‘gaps’ could artificially inflate costs if the use of bulk billing decreases due to the transfer of cost from consumers to insurers. This may make health care unaffordable for consumers in lower socioeconomic groups and could create a ‘moral hazard’ effect, in which uninsured consumers are disproportionately disadvantaged by changes. Insurers may also selectively seek lower risk consumers, creating access inequities for less healthy consumers.

**Mandatory co-payments for primary health care**

Co-payment systems require people to pay a predetermined set amount (through out-of-pocket contributions) each time they receive a health care service. Co-payment schemes for primary health care in Australia are not new. In the post-Medicare era, co-payments were first introduced in 1991 but were abolished after only three months. More recently, a $7 GP co-payment scheme was proposed by the Australian Government but was abandoned in March 2015 following two unsuccessful attempts at obtaining parliamentary approval.

As this recent experience suggests, co-payments are often controversial. The arguments in favour of co-payments for primary health care services are primarily economic, specifically that co-payments would discourage unnecessary treatment and allow GPs to use their time more effectively for those who need it. Critics, however, argue that co-payments reduce equality and access, which negatively affects the long-term health of people with chronic and complex diseases or financial hardship.

The RAND experiment—conducted in the United States in the 1980s—is the most comprehensive evaluation of co-payment effectiveness. The study focused on the impact of co-payments on demand for health services, the effects on appropriateness of care and quality, and the effects on health outcomes. Participants in the experiment were randomly issued co-insurance arrangements (out-of-pocket contributions), ranging from free care to 95 per cent co-insurance. The study revealed several clear findings. Firstly, utilisation of services was linked with co-insurance rates, with the use of medical care decreasing as co-insurance rates increased. This decrease was notably caused by participants
withholding from initiating care, but it was not evident once consumers had entered the health system. Secondly, the trial found that for the average participant, there was no statistically significant difference in clinical outcomes by co-insurance rate, which indicates that higher co-insurance rates did not result in any negative health consequences. It is important to note, however, that this was not consistent across all participants; among participants who were extremely poor or sick, the top 6 per cent experienced better outcomes under a free plan than co-insured arrangements.

Since the RAND experiment, much of the literature has argued that co-payments have major flaws relating to equity and access. Co-payments impose an additional financial burden on consumers, particularly disadvantaged groups and people with chronic or long-term diseases, and financial stress and the likelihood of facing financial difficulties increases by 46 per cent with each additional chronic disease. Increasing the out-of-pocket cost of accessing primary health care may discourage consumers from seeking necessary preventative care, or may prompt them to unnecessarily revert to ‘free’ secondary care, putting greater pressure on ED services. Although there is limited rigorous empirical evidence on the long-term effects of co-payments, researchers generally believe that they encourage a decrease in utilisation of otherwise cost-effective health care, limit entire system access and discourage preventative care.

4.3 FUNDING MECHANISM(S)

Funding mechanisms dictate the way money flows from health care payers to providers. They influence service delivery and therefore impact quality, access, experience and cost performance outcomes. There are three main types of funding mechanism, each of which can be used separately or as part of a blended payment system:

- **Fee-for-service payments.** Providers are reimbursed based on the services they provide to consumers, usually based on the time, effort or cost of providing the consultation. This system encourages greater service provision and should, in theory, improve access. However, it does not incentivise population health outcomes or value for money, and may encourage supply-driven demand.

- **Capitation or population-based payments.** Providers are paid a set amount per person, per time period. The payments are often risk adjusted at a population or individual level, with sicker consumer groups receiving higher funding. Capitated systems vary in the scope of services they include. For example, some include only primary health care services, while hospital costs and other downstream costs are covered separately. Other systems pay a fixed amount to cover a person’s full health care costs. These systems transfer financial risk from the payer to the provider and heavily incentivise providers to reduce hospital costs and other health care costs. The main benefit of a population-based system is that it encourages providers to focus on prevention and overall cost reduction. The disadvantages are that such systems are more complex to operate and require sophisticated providers who are willing to take on risk.
**Payment for performance or outcomes.** Providers receive payment for undertaking certain practices or achieving a set of outcomes for their enrolled consumers, typically related to quality, access, experience and productivity. The main advantage of this approach is that it ensures that provider incentives are aligned with the system’s goals. The disadvantage is that payment-for-outcome schemes are limited by data availability and can be difficult to design without creating perverse incentives.  

There is no evidence to definitively suggest that one funding mechanism is superior to another. They all involve trade-offs and can create potentially adverse consequences. As a result, systems around the world adopt a range of different approaches, often blending different types of payments in an attempt to find the optimal balance.

### 4.3.1 Australia’s system

Australia’s primary health care system has predominantly used an FFS funding model for the last 30 years, and Australia is one of only three OECD countries not to use some form of capitation (Figure 4.3). Payments for health care services are listed in the MBS, which outlines over 5,700 items for which a rebate can be claimed. These activity-based payments account for over 90 per cent of primary care payments to providers.

Australia also has an incentive system, which rewards clinicians for carrying out certain clinical processes. The PIP or the Service Incentive Payments (SIPs) scheme reward completion of clinical processes relating to asthma, cervical screening, diabetes, e-Health, GP aged care access, Indigenous health, non-referred procedural services (e.g., obstetric delivery), prescriptions, rural loading and teaching. Over 5,200 practices received PIP payments in February 2015, most commonly for e-Health (received by 93 per cent of practices), Indigenous health (received by 51 per cent of practices) and teaching incentives (received by 22 per cent of practices). Typically, payments are made to the practice, although they can also be administered through Service Incentive Payments (paid directly to GPs) or rural loading payments (paid automatically to rural practices). It should be noted, however, that the PIP and the SIP scheme represent less than 10 per cent of practitioner income. Practices can also receive incentive payments of up to $125,000 per year for registered or enrolled nurses through the Practice Nurse Incentive Program (PNIP). The scheme also offers financial incentives for the employment of Aboriginal health workers, allied health professionals in rural areas, rural loading and practice accreditation.

The PIP has received mixed reviews. A 2008 evaluation of the program in relation to diabetes treatment found that the HbA1c test (blood glucose test) was 15 to 20 per cent more likely to be ordered if GPs participated in the PIP, which suggested that the scheme could influence behaviours and positively improve care delivery. A 2013 study, however, found that the short-term increases in diabetes and cervical cancer screening were observed across all practices, which meant that improvements could not be conclusively attributed to the PIP. A 2010 review of the PIP, conducted by the Australian National Audit Office (ANAO), also produced mixed results. Sixty-three per cent of surveyed GPs believed that participation in the PIP benefitted quality of care or consumer access,
and only 12 per cent of GPs rated the PIP as having no benefit at all on these metrics. The review also found that the PIP encouraged modest improvements in general practice, such as greater use of electronic patient records. However, nearly 80 per cent of surveyed GPs also claimed a slight or significant increase in cost and work effort associated with the PIP. In addition to high compliance and administrative costs for practitioners, other limitations of the scheme include low participation amongst smaller practices and disadvantaged population areas.

FIGURE 4.3

<table>
<thead>
<tr>
<th>International funding compositions in primary care</th>
<th>% based on approximate estimations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>100%</td>
</tr>
<tr>
<td>Singapore</td>
<td>100%</td>
</tr>
<tr>
<td>Japan</td>
<td>95%</td>
</tr>
<tr>
<td>Austria</td>
<td>90%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>90%</td>
</tr>
<tr>
<td>Canada</td>
<td>85%</td>
</tr>
<tr>
<td>Denmark</td>
<td>70%</td>
</tr>
<tr>
<td>France</td>
<td>60%</td>
</tr>
<tr>
<td>New Zealand</td>
<td>45%</td>
</tr>
<tr>
<td>Norway</td>
<td>35%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>33%</td>
</tr>
<tr>
<td>United States</td>
<td>30%</td>
</tr>
<tr>
<td>Italy</td>
<td>25%</td>
</tr>
<tr>
<td>Sweden</td>
<td>15%</td>
</tr>
<tr>
<td>England</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note: Both Canada (in some provinces) and New Zealand are in the process of extending hybrid models of health care funding

4.3.2 Alternative approaches

Evaluating payment models is challenging, and evidence on whether financial incentives improve quality, access, experience and cost performance in primary health care is limited and inconclusive. There are relatively few high-quality studies, and each scheme is different—both in terms of the context within which it is implemented and the nature of the funding model intervention—which makes comparisons between schemes difficult. As a result, a variety of meta-analyses have concluded that, while there is evidence that funding models change provider behaviour, the impact of different systems remains unclear. More research is needed to better understand their impact, and in the meantime, any changes to funding models should “proceed with caution and incentive schemes should be carefully designed and evaluated.”
Despite this, however, a great deal can be learned by examining programs in different countries and systems that have used new funding models to improve their performance. Three alternative models are worth considering:

- Payment for outcomes
- Capitated or population-based payments
- Blended models

**Payment for outcomes**

In many systems around the world, there is a growing trend towards outcome-based funding in order to incentivise better quality care. Evidence for or against such funding remains inconclusive, however, with two major reviews of payment-for-outcome schemes concluding that there is insufficient evidence to either support or reject their adoption.\(^{117,120}\) Assessing the overall impact of these schemes is also extremely difficult, because each study uses a different incentive design model, different levels of remuneration and different implementation methodologies, all of which make it impossible to draw meaningful comparisons. On an individual basis, however, there are a number of examples of payment-for-outcome schemes that have made a difference.

In Massachusetts in the United States, one prominent example is Blue Cross Blue Shield’s voluntary Alternative Quality Contracts (AQC), which aims to decrease spending growth and improve clinical outcomes for consumers.\(^{121}\) The initiative now has 95 per cent of providers contracted through AQCs (up from 25 per cent when the initiative was introduced), which utilise shared risk and saving mechanisms and provide payment for outcomes for eligible provider groups.\(^{121}\) Initial evaluations suggested that introducing AQC resulted in general improvements in quality.\(^{122}\) More recent findings indicate that participants had lower spending for the 2009–12 period than comparable populations, as well as an unadjusted increase of approximately 4 percentage points over control groups for measures of chronic disease management.\(^{121}\)

The United Kingdom’s QOF is also a useful example of a payment-for-outcome scheme. Introduced in 2004, the QOF represented a major change in the country’s primary health care funding,\(^{123}\) financially incentivising GPs to improve quality, clinical processes and outcomes across 121 different indicators.\(^{123}\) However, it remains unclear whether the QOF can effectively improve outcomes and create appropriate incentives for physicians, and supporting evidence remains inconclusive.\(^{117,124}\) Some studies have found that reductions in mortality and improvements in quality of care were achieved during the first year of implementation (see Section 7.3 on the use of QOF for continuous quality improvement),\(^{124,125}\) but the QOF has also been criticised for failing to produce sustainable change, adding unnecessary cost to primary health care, allowing practices to ‘game’ the system, and failing to incentivise improvements to care beyond achieving targets.\(^{126}\)

In France, a performance-based voluntary contract for GPs (known as le Contrat d’Amélioration des Pratiques Individuelles, or CAPI) was introduced in 2009 to target improvements in quality of care and
Sixty per cent of the reward payments relate to preventative care and chronic diseases, while the remaining 40 per cent relate to medicine perceptions. Practitioners are paid an end-of-year incentive, depending on their performance score against 16 indicators. Within four years of implementation, nearly 97 per cent of GPs were participating in the initiative. An evaluation of the program by the National Health Insurance Fund (NHIF) found modest improvements among participants (relative to non-participants) between 2009 and 2012. The most notable improvement occurred around diabetes management indicators, which revealed a 9 per cent increase in compliance in relation to HbA1c tests among CAPI doctors, compared to a 4 per cent increase among non-CAPI doctors.

When implementing payment-for-performance schemes, however, three potential shortcomings must be considered. Firstly, payment-for-outcomes schemes can create perverse incentives for practitioners, resulting in several unintended consequences. For example, depending on how payments are structured, providers may be incentivised to select only healthy people and avoid ill people, or to disproportionately focus on incentivised care, while neglecting other important health care issues. Secondly, schemes sometimes only reward practitioners who are already delivering high-quality care, rather than driving improvements in quality. Finally, payment-for-outcomes schemes are limited by their ability to accurately measure performance, which means that they require information system infrastructure or timely administrative processes conducted by health professionals. This is necessary to ensure that providers cannot manipulate data to falsely report their performance.

**Capitated funding**

Most developed health systems have an element of capitated or population-based funding (Figure 4.3) because capitation has a number of theoretical benefits. Primary health care physicians in capitated systems have patient lists (see Section 5.2 on consumer-centred medical homes and enrolment), which position them to proactively look after the needs of that population. The model also promotes coordination amongst providers and incentivises joint solutions across health and social care to reduce costs and provide preventative services. Furthermore, it encourages an investor-like mindset among practitioners in order to drive population health outcomes. The benefits for payers include making expenditure more predictable and transferring some financial risk to providers, which are better equipped to manage that risk (although this depends on the size of the population covered and the risk-adjusted amount).

Despite these potential benefits, reviews have concluded that there is insufficient evidence to determine if capitated payments are better or worse than the alternatives. Again, it is difficult to compare systems because they are so different, but there are a number of successful examples of capitated systems that drive innovation and improve outcomes, particularly for people with chronic disease. ChenMed, for example, is a family-owned private primary health care provider in the United States that operates on a full capitation basis and focuses on lower socioeconomic populations and older consumers with co-morbidities and complex care needs. (In 2011, approximately 73 per cent of
consumers had five or more chronic diseases.) Physicians are gradually introduced to risk-sharing and performance management as they build experience with the system, and performance management payments eventually account for 40 to 50 per cent of their earnings. In 2011, ChenMed’s number of hospital bed days was 38 per cent lower than the average in the United States, while its readmission rates were 17 per cent lower than the average.

Kaiser Permanente (KP) is also commonly cited as an example of a successful capitation model that improves health outcomes. The Permanente Medical Groups receive fixed capitated payments to provide exclusive care to KP health plan members at Kaiser Foundation Hospitals and facilities. The system therefore has a strong incentive to reduce overall costs, including investing heavily in primary health care for people with chronic diseases in order to reduce hospitalisations and downstream costs.

Geisinger Health System is another integrated health system in the United States, which serves a population of over 2.5 million people with a high prevalence of long-term conditions or complex needs, most of whom are from lower socioeconomic groups. Unlike KP’s closed system, Geisinger has adopted an open yet integrated system, in which care delivery is available to Geisinger Health Plan (GHP) enrollees, as well as non-GHP consumers in the service area. Geisinger’s ProvenHealth Navigator program—a patient-centred medical home (PCMH) model that utilises capitated payments to cover all services—was found to reduce the total cost of care for all consumers by 7 per cent over a four-year period (relative to projected costs).

Although primary health care practitioners in the United Kingdom receive some payment for outcomes through the QOF, the NHS has maintained a primarily capitated funding model. Capitation accounts for approximately 80 per cent of payments, which are adjusted based on age, gender, consumer morbidity and mortality, whether consumers are in nursing homes, consumer list turnover and a market-forces factor. Payments are reviewed each quarter to ensure appropriate funding allocations. In order to make capitation payments to GPs, all consumers are required to register with GPs. Although it is difficult to directly link this capitation model with outcomes, several performance metrics suggest that it is a well-functioning, supportive system. For example, amongst adults aged 65 and older, a self-reported Commonwealth Fund survey found that 32 per cent had no chronic conditions, which is relatively high compared to other developed countries such as France (19 per cent), Canada (17 per cent) and the United States (13 per cent). Similarly, 76 per cent of consumers reported no care coordination problems in the past two years, which is also relatively high compared to the United States (65 per cent), Norway (63 per cent) and Germany (59 per cent).

However, capitation models do have several disadvantages if used in isolation. For example, capitation creates little incentive for providers to increase the quality or quantity of their care because financial incentives are fixed, regardless of their performance in these areas. From the practitioner perspective, therefore, consumers are viewed as a source of cost, rather than revenue, as is the case with FFS models. There is also a potential for under-servicing, particularly if practitioners avoid people with needs that they believe are under-compensated for by risk formulas. Finally, there is a potential for capitation models to limit consumer choice and create provider monopolies, depending on the design.
of the model. This occurred in the United States in the 1990s, when capitated models became popular and a number of large practice management companies emerged, which threatened the viability and quality of care of other relatively small providers.

**Hybrid (blended) model**

In reality, most countries around the world have a blend of different funding models (Figure 4.3). In many instances, hybrid funding models are complex and politically and professionally challenging, and they often require well-integrated systems. However, they can address some of the failures of single-based funding models such as pure FFS or pure capitation. There are three useful examples of blended models: the model adopted by the Australian Diabetes Care Project and the models adopted in New Zealand and Canada.

In Australia, the Diabetes Care Project trialled a blended funding model that utilised FFS, flexible funding based on risk stratification, quality improvement support payments (QISP) and salaried care facilitators. Enrolled participants were grouped based on five identified risk strata (see Section 5.1 on consumer segmentation), and funding payments were made directly to practices based on identified grouping on a population basis, similar to a capitation-style method. Providers were able to determine how funding was then allocated within the practice to GPs. Practices also continued to receive FFS payments by claiming standard MBS items. Additionally, a QISP was paid to practices for achieving improved clinical outcomes (HbA1c) and adhering to clinical processes, and based on consumer experience metrics. Evaluations of the project suggested that the funding model enabled greater innovation, encouraged a more consumer-centred approach to health care and contributed to improved clinical outcomes.

Since 2009, New Zealand’s funding model has shifted towards blended payments, combining capitation, co-payments and targeted FFS. Capitation covers a portion of GP services and consumers contribute co-payments for the remainder. This shift has facilitated a better provider mix of multidisciplinary team members delivering care, greater consumer enrolment and accountability for provider behaviour, and more accurate information on population demographics. The transactional nature of GP consulting remains unchanged due to the continuation of FFS payments, which represent a significant proportion of practitioner income.

Over the past decade, Canada has also undergone primary health care transformation to reform its funding model, moving towards blended funding arrangements including FFS, capitation, salaries or targeted incentive payments. In 2002, 59 per cent of practitioners received 90 per cent or more of their income from FFS payments. By 2007, this had declined to 48 per cent. In Ontario, a 2011 study of Family Health Groups found that the new blended model (relative to the FFS model) increased practitioner productivity, reduced referral rates and tended to treat moderately more complex consumers. Despite the growing evidence base, however, research that suggests that blended funding models improve quality of care delivery remains limited.
Chapter 5: Primary health care consumer interaction with the health system

This chapter discusses the elements of primary health care that determine how consumers interact with the system. It is divided into three parts:

- **Consumer segmentation:** This identifies which people the system should focus on and determines how resources are allocated.

- **Medical homes and enrolment:** The ability of consumers to enrol in medical homes, which provide longitudinal care for a population of people.

- **Education and self-management:** Mechanisms to help consumers understand and manage their conditions independently.

### 5.1 CONSUMER SEGMENTATION

Consumer segmentation (or risk stratification) allows practitioners to provide tailored care based on predictions of future health care needs or the clinical severity of particular groups of people. Finding ways to tailor care for different groups and focus resources where they can make the most difference is important for ensuring the sustainability and effectiveness of the health care system. In Australia, for example, the most expensive 5 per cent of people with diabetes account for 28 per cent of total costs (including MBS, PBS, hospital and allied health costs), while the next 15 per cent account for 29 per cent of total costs. If Australia can find a way to identify these people ahead of time and intervene early, it could be enormously beneficial in terms of avoided illness and reduced overall costs.

#### 5.1.1 Australia’s system

To date, consumer segmentation in primary health care in Australia has been limited. The *Towards a National Primary Health Care Strategy* discussion paper broadly identified consumers with chronic diseases and co-morbidities as a priority for the future primary health care system, highlighting a need for it to be “well integrated, coordinated, and providing continuity of care, particularly for those with multiple, ongoing and complex conditions.” At present, however, Australia does not systematically group people into different segments based on an assessment of their future health care needs. Instead, the primary health care system supports tailoring care for people with chronic diseases through CDM items available under Medicare. These items are available for people with chronic conditions—defined as “one that has been (or is likely to be) present for six months or longer”—and they fund general practitioners to create individualised care plans and team care arrangements. In 2013–14, CDM items represented over 5.6 million services and $587.6 million in benefits paid—a 16.4 per cent growth in services since 2012–13. These items also fund up to five individual and eight group allied health...
visits for eligible people. It is up to clinicians to decide who should receive these benefits and what care they should receive. However, as discussed in Section 2.4, a recent study of their use among people with diabetes suggests that they are not well targeted to those who are likely to need them most.

### 5.1.2 Alternative approaches

There are three main ways in which consumer segmentation or the tailoring of care can be applied in health systems:

- Programs for specific cohorts of high-risk individuals
- Systems that perform comprehensive segmentation of populations and tailor care accordingly
- Population-based funding systems that allocate funds based on projected needs

#### Programs for specific cohorts of high-risk individuals

The simplest way to segment and tailor care is to identify a single group of high-risk individuals and enrol them in programs designed to address their needs. Such programs tend to allocate additional resources to these people, usually on the basis of achieving benefits in reduced secondary health care costs in the future. As such, these programs often focus on reducing the number and duration of hospital episodes for people enrolled in the program.

One example of this can be found in South Devon and Torbay in the United Kingdom. Predictive modelling using the Devon Predictive Model (DPM) is used to identify the top 0.5 and 5 per cent of consumers at risk of unplanned hospital admission in the next 12 months. Lists of these consumers are reviewed to identify those most suitable for proactive case management and admission to a ‘virtual ward,’ in which they receive intensive assessment, coordination from a case manager and support for their home health needs. Consumers are ‘discharged’ from the virtual ward once they have been stabilised. An evaluation of the program found that emergency admissions and lengths of stay decreased in 2010 and 2011 for these high-risk consumers. Health professionals working in the virtual wards also reported improved motivation and communication between teams, as well as a greater focus on protocol compliance.

This approach was also utilised by Evercare—a managed care program in the United States, in which high-risk individuals (i.e., those living in long-stay nursing homes and most prone to requiring secondary care) were assigned Nursing Practitioners (NPs), who worked alongside other primary health care physicians to provide regular monitoring, structured health assessments and training. The intention of the program was to decrease instances of hospitalisation through more intensive primary health care. Studies showed that the incidence of hospitalisations among Evercare residents was half that of the control group, and that each NP saved, on average, an estimated $103,000 a year in hospital costs.
Another example is the Pfizer approach, which uses telephone systems to monitor and refer consumers at the highest risk of requiring both planned and unplanned secondary care. These individuals are contacted proactively by dedicated telephone support nurses to assess their condition, refer specialist care, educate them on self-management and monitor their condition.

In Australia, a successful example of this type of approach is the Hospital Admissions Risk Program (HARP) in Victoria. This government initiative was developed in the late 1990s in an effort to better manage demand for secondary care, targeted at people with chronic diseases who frequently use hospitals. The HARP coordination model is based on Kaiser Permanente’s chronic care framework, which focuses on providing intensive care coordination for high-risk consumers, while lower risk consumers participate in health programs with a greater focus on preventative care. A 2005 evaluation found that participants in HARP demonstrated 35 per cent less ED attendances and 41 per cent fewer hospital days over a 12-month period. Between 2007 and 2010, 13 HARP Better Care of Older People (BCOP) trials were piloted, resulting in a 64 per cent reduction in hospital utilisation and a 55 per cent reduction in ED presentations. From July 2010, BCOP was rolled out across Victoria.

Other Australian trials have also started to experiment with this type of program. For example, Medibank Private and the Victorian Department of Health launched a trial called CarePoint in 2014, which focuses on 2,200 Victorians with multiple chronic and complex conditions and a history of high service utilisation (i.e., adults with four or more admissions in two years, or two or more admissions within a three-month period in the last six months). The model builds on the central role of the GP or physician in care assessment and planning, and features home monitoring, care navigation and an electronic care plan and patient record. Results will be available in late 2017.

Systems that perform comprehensive segmentation of populations and tailor care accordingly

A more sophisticated approach is to segment whole populations into different groups and tailor care (and resource allocation) for each group. The advantage of this approach is that it can be expanded to include many more people than the focused disease-management programs described above. Typically, these systems target the highest risk people using similar models of care to those described above. In addition, however, they provide structured programs for people who are relatively well but at risk of future health problems (due to long-term conditions such as diabetes or heart disease), or who have risk factors such as high blood pressure or cholesterol.

There are various examples of this in action around the world. Perhaps the most well-known example is the Kaiser Permanente risk pyramid, which stratifies the population with chronic conditions into three groups and offers differentiated levels of intervention for each group across primary and secondary care. Level 1 covers people with relatively manageable chronic conditions (65 to 80 per cent of the population), who receive normal primary health care with supported self-management. Level 2 covers people with chronic conditions who are considered unstable or at risk of deterioration (15 to 30 per cent of the population), who receive structured support through specialist care.
management. Level 3 covers people who have highly complex needs and/or are frequent users of unplanned secondary care (5 per cent of the population). This group receives active case management. A 2003 study found that after adopting the Kaiser model, there was a 6 per cent decline in medical visits within the trial group and 5 per cent fewer telephone calls to doctors. An unpublished report by the NHS, meanwhile, found that Kaiser Permanente’s focus on integrating services, using intensive primary health care to reduce hospitals admissions, and actively managing consumers reduced the number of bed days required for leading causes of admission (asthma, bronchitis, COPD and stroke) by 75 per cent among people over the age of 65.

Another example from the United States is the Care First Patient-Centred Medical Home (PCMH), which also utilises a whole-population approach to risk stratification. Introduced in 2011, the PCMH program uses a Wellness/Illness Pyramid to determine five cohorts of members likely to have high future costs (Figure 5.1). The pyramid is based on an Illness Burden Score for each member, which is calculated based on the member’s individual claims history. Each of the five segments has a tailored care approach, ranging from low to basic intervention for “healthy” consumers (Band 5) to high-touch, individually tailored care delivery for consumers with multiple long-term conditions (Band 1), consumers with “catastrophic conditions” (Band 2), or consumers “at risk for multiple chronic conditions” (Band 3). For example, the top 2 per cent of consumers by risk (those with complex, end-stage diseases or major traumas) are assisted with advanced coordination of care or home health services and are provided with case managers. However, there is usually limited scope for PCMH programs to assist these consumers, who are typically cared for by specialists, and the programs instead focus on Bands 2 and 3, which include the next 28 per cent of consumers with multiple chronic diseases. A review of each individual consumer in these bands is used to determine who will benefit most from care plans or other interventions. These consumers are reclassified and assigned into clusters, and evidence-based clinical guidelines are then applied to each cluster. Members in these bands all receive periodic screening and preventative services, with a focus on risk mitigation. This model enables CareFirst to understand cost patterns and predict resource requirements for consumers’ unique care needs. In 2012, after the initiative had been in place for two years, results from the PCMH demonstrated overall savings (against projected costs) of approximately US $98 million.

In Australia, a similar approach was implemented as part of the DCP. In this trial, funding levels were tiered by risk, with resources directed to consumers for whom the greatest benefit could be realised. The enrolled population was divided into five groups, based on metabolic indicators (current HbA1c levels, blood pressure and cholesterol levels), health status (whether or not they had complications related to diabetes) and whether they had been recently been diagnosed with diabetes (Figure 5.2). Funding for general practices and allied health professional consultations was then tiered so that those in the highest risk groups received more resources. Decision-support software suggested tailored care plans for each group of consumers, with those in the high-risk groups receiving more intensive support and coaching. The DCP trial found that combining an improved IT platform, continuous quality improvement processes and innovative funding models based on risk stratification had a significant impact on improving clinical outcomes.
In order to implement risk stratification systems such as these, it is important to develop effective ways of predicting a person’s risk level. A well-known model is the combined predictive model (CPM), which is used in the United Kingdom. This risk stratification tool places consumers into four segments, based on their relative risk of unplanned hospital admission in the next 12 months. Consumers in the top 0.5 per cent segment are predicted to be 18.6 times more likely to have an emergency department admission than the average population. Most of these models require a data set that links primary health care, hospital care and ideally social care data at the consumer level (although this can sometimes be challenging to obtain). A review of the CPM found that including GP practice data, in addition to secondary care data, significantly enhanced the ability to identify long-term conditions and understand the necessary clinical interventions for risk groups.

Historically, obtaining such data has proved difficult in Australia due to fragmented consumer-level data sets, but a number of initiatives are underway to resolve this. For example, the NSW Agency for Clinical Innovation (ACI) is currently developing and testing risk stratification tools for use in integrated care strategies, and will be testing various risk stratification approaches at several locations over the next 6 to 18 months. The program focuses on developing consumer selection approaches and selection methodologies in order to redesign NSW’ Chronic Disease Management Programme.

FIGURE 5.1

PCMH risk stratification of consumer population pyramid
Population-based funding systems that allocate funds based on projected needs

Internationally, many countries adjust funding distribution for population-based payments based on predicted risk. While this is not strictly a formal consumer segmentation method, it does adjust resource allocation to populations based on risk, and clinicians are then free to tailor individual care based on their own assessment of need. In these countries, resources are typically allocated on the basis of age, gender, previous utilisation of services, health status (which can be defined by the number and severity of health issues), or other related components (such as socioeconomic background, demographics) that may affect the risk status of consumers (Figure 5.3).
5.2 MEDICAL HOMES AND ENROLMENT

Some primary health care systems have chosen to build their care models around a single ‘health care home,’ where people enrol with a single provider, which becomes their first point of care and coordinates other services around the consumer. Proponents of this system argue that it improves care coordination, reduces duplication and enhances accountability. Enrolment is a pre-requisite for population-based funding (Section 4.3) and payment-for-outcome schemes (Section 4.3), as well as comparing provider performance (Section 7.2), because these mechanisms all require the ability to associate a particular population with a particular provider.

5.2.1 Australia’s system

Australia does not have a formal system for consumer enrolment, and people seeking primary health care are free to attend any primary health care provider. In practice, 67 per cent of consumers always see the same GP, and an additional 25 per cent may see a different GP but always attend the same practice. Nevertheless, there is no formal accountability for ongoing management, and GPs are frequently not aware of how they perform relative to other health professionals.
5.2.2 Alternative approaches

Many health care systems around the world have implemented consumer enrolment systems. In most cases, this is voluntary, although it is mandatory in the United Kingdom and the Netherlands if people are to receive publicly funded health care.

One example that is particularly relevant for Australia is New Zealand’s PHO program. Prior to 2001, New Zealand did not have primary health care consumer enrolment. Like Australia, care was provided on a fee-for-service basis, and consumers could move between providers as desired. In 2001, however, New Zealand set up PHOs, and providers and consumers were given the option of signing up. For providers, this meant adopting standardised electronic medical records, switching to a population-based funding model and supplying data to a central agency on outcomes and quality of care for their enrolled population. For consumers, it meant registering with a PHO and using it as their single point of primary health care. New Zealand financially incentivised uptake, with providers receiving a one-off signing fee (to cover the cost of necessary IT equipment and process redesign), as well as a fee for each person enrolled. Consumer incentives included a reduction in fees for GP visits and prescriptions. These financial incentives contributed to over 95 per cent of New Zealanders signing up to a PHO. The program has been linked with an increased focus on quality improvement (including clinical facilitation) and improved data collection, data quality and feedback to member practitioners.

People are also able to voluntarily enrol in health care homes in the United States. An increasing number of health insurers offer PCHMs as part of their efforts to reduce overall costs and improve the quality of care. These represent a new model of organising primary health care, with a focus on: (1) providing comprehensive care for an individual’s physical and mental health care needs, which often requires the co-location of physicians, nurses, pharmacists, social workers, educators and care coordinators; (2) gaining a deep understanding of the consumer; (3) coordinating between secondary care and allied health; (4) improving access through technology and enhanced in-person hours; and (5) ensuring quality and safety through CQI, decision-support tools, and robust data collection.

Examples of PCMHs include HealthTeamWorks in Colorado; CareFirst BlueCross BlueShield in Maryland, Washington, D.C. and Virginia; Intermountain in Utah; and HealthPartners in Michigan. PCMHs typically use a blended, three-part payment model, which consists of a monthly, risk-adjusted care coordination payment; a visit-based, fee-for-service component; and a performance-based component for delivering on defined quality and efficiency goals, which is generally funded through secondary care cost savings. Although peer-reviewed studies on the impact of PCMHs have returned mixed results, a 2015 meta-review of the existing literature showed favourable results for reducing cost, reducing utilisation of hospital and ED services, improving clinical outcomes and enhancing consumer satisfaction. The Illinois Health Connect program, for example, achieved annual Medicaid savings of 6.5 per cent, an 18.1 per cent reduction in its adjusted hospitalisation rate, a 5.0 per cent reduction in its adjusted emergency department visit rate, and an 85.8 per cent user recommendation rate.
In Norway, enrolment is with an individual GP, rather than a practice, and consumers are free to choose in the open market. Since 2001, the social security office has carried out the enrolment process, which is governed through the Regular Practitioners Scheme. Consumers can change their GP a maximum of twice in a 12-month period, but there is a legislated right to request a second opinion. While the program is optional, over 98 per cent of the population have enrolled with a GP. Two thirds of GPs are happy with the program, and the number of people who are very happy with the primary health care system rose from 32 per cent before the program was launched to 44 per cent three years into its rollout. Concerns about potentially perverse incentives in Norway have been raised in the academic literature (e.g., incentivising long patient lists and rationing consultations), but research has concluded that both concerns are unfounded.

In the Netherlands, insurance funds require consumers to enrol with a GP to receive care. Consumers are only enrolled with one GP, but they can change physicians within their assigned practice. The funding model is mixed, with practices receiving €54 per year, per consumer, as well as €9 for each consultation. Enrolment is managed via an electronic registry, which also supports financial administration of the system. Similarly, consumers in the United Kingdom have to go through a mandatory enrolment process in their area of residence to obtain an NHS number. Once assigned to a GP, consumers can change to a new practice without notifying their prior GP or practice. While drawing a causative link between enrolment mechanisms and consumer outcomes has not been attempted in the United Kingdom or the Netherlands, an article published by the Commonwealth Fund suggests that continuity of care in the United Kingdom and the Netherlands has been facilitated through consumer enrolment in a single general practice.

Australia has experimented with consumer-centred medical home models. The most recent example is the DCP, which gave people with diabetes the option of enrolling with a general practice. The practice then received population-based and outcome-based payments, as well as regular reports on the progress of their enrolled population. Nearly 8,000 people from 154 general practices signed up to the project during the six-month enrolment period. Enrolment was slightly skewed towards sicker people, possibly as a result of higher financial incentives for those with out-of-range metabolic indicators or comorbidities.

5.3 EDUCATION AND SELF-MANAGEMENT

To achieve sustainable improvement in health outcomes, people with chronic diseases must take an active role in their health management and care. Education and self-management programs aim to empower people by providing information and teaching them skills and techniques to improve their ability to take care of themselves. There is ample evidence that these programs can improve people’s clinical condition and quality of life. Surveys also consistently show that consumers want more information about their health conditions and treatment options, as well as the skills to self-manage their condition. Consumer education and self-management are especially beneficial for those with a chronic condition, where only the consumer can be responsible for his or her day-to-day care over the lifetime of a condition.
The advent of digital technologies in the last decade makes it possible for people to take a more active role in their care by making it easier to find information, self-monitor a condition, interact with other people with the same condition and receive support to make better decisions. This trend is already well established—a study of 13 developed and developing countries found that nearly 9 out of 10 people have used the internet to find health information and advice—but it is set to accelerate in coming years.

As health care becomes increasingly focused on long-term conditions, behavioural change in consumers will become increasingly important. Health care professionals must ensure that they engage consumers (rather than treating them as passive recipients of care) and encourage them to self-manage some of the aspects of their chronic disease. To facilitate this, consumer engagement and experience should be emphasised during clinical training.

Over the past 30 years, governments throughout most OECD countries have encouraged consumers to contribute to the planning and development of health services by setting standards for consumer feedback mechanisms. These feedback mechanisms, in turn, enhance customer engagement, encourage customer awareness and increase levels of self-education.

5.3.1 Australia’s system

The national approach to health literacy is led by the ACSQHC. This includes a national statement and guidance on implementing and integrating health literacy for clinicians, consumers and health administrators. Through this approach, the ACSQHC aims to encourage a variety of different organisations to think about what they can do to address health literacy across health, education and social services.

Australia has many education and self-management programs for people with chronic diseases. These include government-funded initiatives such as the National Diabetes Services Scheme—which provides subsidised access to diabetes-related equipment and information on managing diabetes—and state-level initiatives, such as the Diabetes Self-Management (DSM) initiative in Victoria. The DSM initiative funds the delivery of services that aim to assist people with type 2 diabetes to improve their capacity to manage the condition, prevent diabetes complications, and improve their health and well-being. Recently, the Australian Government’s Sharing Health Care Initiative also explored whether a range of community education interventions for people with chronic diseases were suitable for scale-up. NGOs also provide a range of programs. Dose Adjustment for Normal Eating (DAFNE), for example, is a program for people with type 1 diabetes, which has been shown to improve blood glucose control and improve quality of life.

The MBS also contains a number of items that support consumer education and self-management. For example, people with chronic diseases are eligible for care plans and team care arrangements, which set goals and activities for consumers and their care teams. People can also receive up to five individual visits and eight group visits to allied health professionals, such as dieticians, diabetes educators,
exercise physiologists and podiatrists, all of whom provide education and coaching on managing different conditions.182,183

5.3.2 Alternative approaches

While Australia already provides a great deal of support to people with chronic disease, there are three areas in which Australian efforts could be expanded:

- Peer support programs
- Technology-enabled education programs
- Provider-led education and self-management programs

In addition to the three areas described in this section, Section 7.1 describes five digital tools that can be applied to support people with chronic disease, including (1) telehealth and mobile health tools; (2) remote monitoring devices; (3) electronic medical records (EMRs); (4) team-based software; and (5) decision-support engines.

Peer support programs

These programs match two or more people with the same chronic disease so that they can provide coaching and support to one another. There are a number of academic studies that demonstrate that peer support programs can provide significant clinical and psychological benefits by targeting specific behaviours and consumer empowerment.184 For instance, telephone or face-to-face peer support programs have been shown to significantly improve blood glucose control in people with diabetes,185 while online peer support programs can improve knowledge, social support and people’s self-efficacy.186 Many peer support programs, however, focus on a single disease, which can present a challenge for people with multiple chronic diseases.187–189 To date, there are few interventions that provide peer support for people with multiple chronic conditions.184 For this reason, evidence demonstrating the effectiveness of peer support programs for people with multiple chronic conditions is limited and needs to be further explored.184,190 Research indicates that interventions that focus on particular conditions in people with multiple chronic conditions may be the most effective way of offering consumer education.184 The current trend towards peer support programs that focus on a single disease could be related to funding sources and guideline development, both of which predominantly focus on single diseases. One approach to providing cost-effective access to peer support programs is to create online consumer communities, such as patientslikeme (PLM), which allows consumers to share information on their health experiences and the organisations that support them (Figure 5.4).191 The self-reported benefits of PLM include a better understanding of the condition (reported by 58 per cent of participants), greater control over the condition (reported by 50 per cent of participants), reduced side effects (reported by 27 per cent of participants), and improved adherence to clinical guidelines (reported by 27 per cent of participants).191
Technology-enabled education programs

Opportunities created by the digital world are beginning to transform consumer education and self-management.

One approach to engaging and educating consumers involves adopting a fully implemented platform that enables consumer education and chronic disease self-management, such as Kaiser Permanente’s My Health Manager (which is linked to Kaiser’s EMR system, HealthConnect). Innovations include the ability to take online health assessments and access health information remotely. HealthConnect and My Health Manager have improved consumer behaviours and led to better health outcomes. A study of Kaiser members in Hawaii, for example, found that the number of office visits by consumers fell by over 25 per cent between 2004 and 2007.

There are also several international examples that illustrate the role mobile health can play in preventing chronic disease or treating consumers with chronic conditions. One trial, for example, provided evidence that regular support messages sent by text message helped people to quit smoking in the short term. Similarly, findings from a mobile phone-assisted diabetes self-care pilot program demonstrated that consumers engaged in the program valued the mobile phone case manager system highly and used hospital services less frequently (both ED visits and subsequent hospitalisations). Consumers who engaged in a mobile health study in the United Kingdom also reported good compliance and better access to self-management interventions.
Provider-led education and self-management programs

People with chronic diseases are often poorly engaged in managing their condition, and there is significant variation in the quality of care and the support they receive to do so. People with complex or multiple chronic diseases (especially those who are older) may be best supported by tailored education provided through their health professionals.

There are several provider-led education and self-management programs available internationally, many of which are worthy of consideration. The Expert Patients Programme (EPP), for example, is a comprehensive self-management program for people in the United Kingdom living with one or several chronic conditions. While GPs retain overall responsibility for managing care for people with multiple chronic diseases, the EPP provides complementary support for consumers by increasing their confidence, improving their quality of life and helping them to manage their condition more effectively.

For example, the program offers advice on coping with pain, extreme tiredness and feelings of depression; provides relaxation techniques and exercises; and offers guidance on healthy eating, communicating with family, friends and health care professionals, and planning for the future. While the program has been shown to improve consumers’ confidence, there is no evidence to date that the EPP has reduced hospitalisations.

In the United States, different primary health care providers have successfully adopted different techniques to deliver provider-led education to people with multiple chronic diseases. Some of the most commonly used techniques include: (1) increasing consumer participation in care through collaborative goal-setting, using motivational interviewing (MI) as a counselling approach (which has been shown to be effective in engaging consumers); (2) improving communication with consumers using techniques such as consumer activation through skills training (e.g., coaching consumers to take a more active role in the clinic visit) and pre-visit questionnaires; and (3) fostering and engaging consumers in behaviour change. One tool that can be applied to achieve behaviour change is the Chronic Disease Self-Management Program, developed by Lorig et al., which includes content on exercise, symptom management, managing negative emotions, health care professional to consumer communication, nutrition, fatigue management, and other topics applicable to people with multiple chronic diseases.
Chapter 6: Primary health care professionals

The role of the health professional workforce in primary health care is critical to the outcomes and sustainability of the system. The following chapter focuses on:

- **Clinical leadership**: The involvement of clinicians in driving improvement and the progression of primary health care delivery.

- **Workforce composition and roles**: The roles and responsibilities of general practitioners, nurses, allied health professionals and specialists in primary health care delivery.

- **Provision of care coordination**: The person(s) responsible for coordinating communication and activities between consumers and health professionals (who may be a general practitioner or specialised coordinator).

### 6.1 CLINICAL LEADERSHIP

Clinical leadership is central to achieving effective, efficient and sustainable health care for people with chronic disease.\(^{204,205,206,207–212}\) Clinically trained managers bring many advantages to the system, including an ability to understand clinical challenges, proficiency in communicating with clinical staff, and credibility amongst the clinical workforce.\(^{204}\) Research in the United Kingdom and the United States, for example, found a strong relationship between the number of managers with a clinical background and performance,\(^{204}\) and organisations that increased the number of clinical leaders over time saw the greatest improvement in management scores.

Health systems need to encourage clinical leadership among health professionals at all levels and in all positions.\(^{207,213}\) Creating a sense of shared responsibility and providing opportunities to drive improvement across all health care professionals can facilitate and encourage effective teamwork and communication.\(^{214}\) Encouraging and supporting clinical leadership amongst nurses has been identified as particularly important. Davidson et al. (2006) have argued that nurse leaders are needed at every level of leadership and should be involved in strategic planning, mentorship and leader responsibilities.\(^{215}\) Health Workforce Australia has similarly highlighted that nurse leadership is fundamental to productivity improvements, developing positive workplace cultures, and workplace retention.\(^{216}\)

### 6.1.1 Australia’s system

Clinical leadership was identified as one of five system concerns for sustainability in the *National Health Workforce Innovation and Reform Strategic Framework for Action 2011–2015*.\(^{217}\) The report suggested five strategies for creating sustainable leadership in the health system, including developing a nationally consistent leadership framework, working with regulators and accreditation authorities to incorporate leadership competencies into education, and directly working with clinical leaders.\(^{217}\)
Australian health professionals can access Australian-based and international leadership development programs. For example, the Clinical Excellence Commission has been running annual External Clinical Leadership Programs (CLP) in New South Wales since 2007, which now attract approximately 300 health professionals each year. Practitioners receive training to help them understand effective governance, core leadership competencies required for health care, and strategies for generating a culture of continuous improvement, safety and quality. Although there has been no formal evaluation of the program, participant feedback indicates that it represents a worthwhile investment in personal development.

Leadership programs have also been adopted in some Australian universities. Edith Cowan University in Western Australia, for example, introduced a leadership program as part of the extracurricular studies organised for fourth-year nursing students. The program focuses on foundational leadership knowledge, and pairs participants with leader mentors from local health organisations. Initial results demonstrated a positive shift towards effective and open communication among participants, as well as improved leadership confidence and personal and professional growth, although the long-term program benefits have not yet been measured. In 2010, the University of Queensland (UQ) also introduced a leadership training program, offered jointly by the UQ School of Medicine and UQ School of Business. High-performing students accepted into the program study three courses in strategy, human capital and leadership, accumulating credit towards a graduate certificate in executive leadership. To date, there has been no formal research or evaluation of the performance of graduating students.

While the availability of clinical leadership programs is encouraging, an evaluation of these programs by Health Workforce Australia (HWA) found that leadership opportunities disproportionately favour physicians over nurses and allied health professionals. The evaluation also identified a number of design shortfalls in leadership programs. Only 20 per cent of programs, for example, incorporate forms of action delivery, and only 10 per cent offer mentorship support or in-situ training. The Australian Primary Health Care Research Institute has recommended the establishment of a national primary health care clinical leadership development program, tied to the achievement of specific service changes and improvement. At the most basic level, programs like this can begin to shift health professionals’ mindsets and opinions on leadership and its critical role in improving outcomes.

In 2013, HWA released its ‘Health LEADS Australia’ leadership framework, with the goal of creating a people-focused health system that is equitable, effective and sustainable. Health LEADS is designed to be the national reference point for all health care professionals; all health care organisations; all national, state and territory agencies; and all training and academic bodies. The guiding principles of the Health LEADS Australia framework are: 1) ownership of leadership by all individuals in health care, and 2) the perpetual need for personal and professional development at all levels to shape the future of Australia’s health system. It is intended that, over time, Health LEADS Australia will be supported with further tools, stories, networks and programs.
6.1.2 Alternative approaches

Internationally, two interventions have been adopted to improve clinical leadership:

- Leadership education for those in training
- On-the-job leadership training and programs

**Leadership education for those in training**

University curricula and postgraduate training programs provide a foundational opportunity to deliver leadership skills and knowledge to health professionals. Running educational programs on leadership as part of a university degree exposes students to leadership skills, allows students more time to develop these skills before formally joining the workforce, and helps to motivate and encourage students to become more enthusiastic about clinical leadership.\(^{221,225}\)

Some countries have taken a lead in promoting clinical leadership among trainees. In the United Kingdom, for example, the NHS has developed a Medical Leadership Competency Framework (MLCF) to be used in undergraduate and postgraduate medical training curricula. The framework consists of five core domains (Figure 6.2), and expectations around knowledge depth and competence are determined by career stage and progression.\(^{224}\) The framework has been used to support leadership curricula in undergraduate medical schools in the United Kingdom and has been integrated into 58
specialty curricula of the Medical Royal Colleges and Faculties for postgraduate studies. It has also been incorporated into the Department of Health’s eLearning for Healthcare (eLfH) project (known as LeAd) to provide postgraduate trainees with leadership resources.

In the United States, clinical leadership education for medical students is decentralised to medical associations (such as the American Medical Association and the American Medical Student Association [AMSA]), industry bodies and individual medical schools, all of which offer various leadership development programs. The American Medical Association, for example, provides online modules, leadership positions, scholarships and fellowships for medical students, while AMSA offers six-month mentorship and leadership courses for medical and pre-med students. Individual medical schools offer mentorship, shadowing opportunities and leadership conferences, such as the Leadership Development Program at John Hopkins Medicine.

Despite the prevalence of such programs, a systematic review of leadership training in 24 undergraduate medical curricula across the United States, the United Kingdom, Canada, Switzerland, Sweden and Israel found that curricula did not generally influence student behaviour or deliver quantifiable results (for cost, quality or efficiency metrics). The review did, however, highlight some common design choices: 71 per cent adopted longitudinal programs, and 46 per cent catered to both preclinical and clinical students. Only 28 per cent employed clinical faculty to run the programs.

FIGURE 6.2

On-the-job leadership training and programs
On-the-job opportunities can be created for primary health care professionals to develop leadership and management skills through formal clinical leadership programs, secondments to clinical improvement projects and internal leadership support (e.g., mentorship or celebration of leader achievements).

Kaiser Permanente’s leadership development program illustrates how leadership initiatives can facilitate improved outcomes in health organisations. In the late 1990s in Colorado, KP redesigned its leadership development program for physicians, explicitly positioning clinical leadership at the forefront of its strategy for improving consumer outcomes and collapsing traditional barriers between clinicians and managers. As Swanwick and McKimm (2011) explain, “Clinicians are actively encouraged to take on senior management roles, and quality improvement projects are seen as internally generated rather than externally imposed.” Five years after these changes were implemented, consumer satisfaction in Colorado had increased, staff turnover had fallen dramatically, and net income had risen from zero to $87 million.

The ChenMed model of care provides unique vocational leadership development for its physicians. Its medical centre layout (modelled after an ambulatory intensive care unit) encourages physician-led collaboration with other medical staff, and physicians are required to attend morbidity and mortality meetings three times a week to share case examples and encourage peer review. Physicians are also given mentorship and research opportunities and are required to develop business acumen. The ChenMed model has received widespread praise and has produced higher adherence rates (compared to traditional drug treatment plans), lower hospitalisation rates and industry-leading net promoter scores from consumers.

In the United Kingdom, the NHS has emphasised that leadership is critical to providing safe, high-quality care. The NHS Leadership Academy focuses on leadership development and change management and is based on a new model for leadership, which highlights nine dimensions of leadership behavior (Figure 6.3). This model informs the clinical leadership programs and tools that are available to health professionals and organisations.
The Darzi Fellowships (part of the London Leadership Academy), for example, are based on this model and provide cohorts of clinicians in the early stages of their careers with 12-month fellowship posts designed to develop their capabilities as clinical leaders. Over 200 fellows have been allocated posts through the program, with cohorts expanding from medical trainees in secondary care specialties to clinicians from all disciplines and in primary and secondary care. A 2011 evaluation of the program found that it had a significant and positive impact on fellows’ growth, knowledge and mindsets. Although it is not possible to link organisational or system-wide outcomes to individual fellows, the review indicated that there had been positive impacts in both areas.

Other regions have adopted different approaches. For example, North West London—the United Kingdom’s biggest integrated care trial—introduced a Change Academy initiative, which includes the Transformational Leadership Program. The program is aimed at operational and clinical leaders and offers five core modules over the course of a year, which focus on creating “whole system” vision, problem solving, change strategy and influence models, using information to improve outcomes and sustaining change.

Encouraging health professional engagement and participation with these programs remains a problem, however. Overcoming this challenge will require clinicians to become more interested in clinical leadership and managing organisations. Programs need to be easily accessible and functional for practitioners, and systems may need to incentivise health professionals (either financially or by other means) to participate in leadership activities or training.
6.2 WORKFORCE COMPOSITION AND ROLES

The composition of the health professional workforce has important implications for the quality, accessibility and financial sustainability of the health system. Generally, it is acknowledged that health care systems should enable different groups to perform at the top of their skill level, utilising the full extent of their training and education (known as working at the ‘top of their licence’). This improves people’s access to qualified professionals and increases economic efficiency by having the least costly person perform a given function, freeing up more qualified personnel to concentrate on tasks where they can add the most value. Although primary health care provision has traditionally been the responsibility of general practitioners, an increasing demand for care and increasing recognition of the roles and capabilities of allied health and nursing disciplines have prompted a shift in accountability to other health professionals in some health systems.

6.2.1 Australia’s system

Australia’s primary health care workforce consists of GPs, nurse practitioners, nurses and allied health professionals. GPs represent approximately 48 per cent of the health practitioner workforce in Australia, and in 2012, there were approximately 26,000 registered GPs across the country, which equates to 112 full-time equivalent GPs per 100,000 people. Despite increases in absolute supply, population growth and working patterns meant that there was no change in full-time equivalent GPs per capita between 2007 and 2012 (unlike specialist physician numbers, which have been growing steadily) (Figure 6.4). In contrast, while the number of nurse practitioners remains relatively small (there are currently 1,214 NMBA-endorsed nurse practitioners in Australia), there has been a 10-fold increase over the last three years. The number of practice nurses in Australia has also grown significantly, tripling from 3,255 in 2003–04 to 10,759 in 2010–11 (Figure 6.5), and there were over 126,000 allied health professionals across multiple practitioner types in 2012, including psychologists (23 per cent of allied health professionals), pharmacists (21 per cent) and physiotherapists (19 per cent). However, the health workforce is not evenly distributed across Australia. For example, there are approximately 137 GPs per 100,000 people in major cities, compared to approximately 87 GPs per 100,000 people in remote or very remote areas. The Department of Human Services offers four programs to incentivise greater provision of services in rural areas, including the General Practice Rural Incentives program, the HECS Reimbursement Scheme, the Rural Procedural Grants Program and the Rural Locum Education Assistance Program. Despite these initiatives, it remains challenging for people in remote communities to access health services.
FIGURE 6.4

Growth in medical practitioners in Australia, 2007-12
Employed medical practitioners FTE (40 hour week) per 100,000 population

<table>
<thead>
<tr>
<th>Year</th>
<th>General practitioners</th>
<th>Specialists</th>
<th>Specialists-in-training</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>112</td>
<td>115</td>
<td>52</td>
</tr>
<tr>
<td>2008</td>
<td>108</td>
<td>114</td>
<td>50</td>
</tr>
<tr>
<td>2009</td>
<td>112</td>
<td>121</td>
<td>51</td>
</tr>
<tr>
<td>2011</td>
<td>110</td>
<td>123</td>
<td>69</td>
</tr>
<tr>
<td>2012</td>
<td>112</td>
<td>128</td>
<td>60</td>
</tr>
</tbody>
</table>

CAGR\(^1\) 2007-12

- Specialists-in-training: 4%
- Specialists: 2%
- General practitioners: 0%

Note: 2010 data not available

1 Compound Annual Growth Rate

FIGURE 6.5

Growth in practice nurse numbers in Australia, 2003-04 to 2010-11
Estimated total number\(^1\) per 100,000 population

<table>
<thead>
<tr>
<th>Year</th>
<th>Estimated total number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>16</td>
</tr>
<tr>
<td>2004-05</td>
<td>25</td>
</tr>
<tr>
<td>2005-06</td>
<td>30</td>
</tr>
<tr>
<td>2006-07</td>
<td>36</td>
</tr>
<tr>
<td>2007-08</td>
<td>41</td>
</tr>
<tr>
<td>2008-09</td>
<td>43</td>
</tr>
<tr>
<td>2009-10</td>
<td>46</td>
</tr>
<tr>
<td>2010-11</td>
<td>49</td>
</tr>
</tbody>
</table>

\(^{+17\%} \text{ p.a.}\)

1 Numbers based on an estimate, by Divisions, of the number of practice nurses working in their catchments, calculated to per capita based on population statistics.
Consistent with their growth in numbers, the role of practice nurses in Australia has expanded in recent years, facilitated by changes in MBS items for nurses, financial incentives (discussed in Section 4.4.2 on the PNIP) and support from the Commonwealth’s Nursing in General Practice Program. Practice nurses can currently claim six MBS items on behalf of a GP, including the Healthy Kids Check, follow-up services with Indigenous people, monitoring support for people with chronic diseases, antenatal services and telehealth items. A growing body of literature suggests that practice nurses can play a critical role in managing workforce supply and improving the quality of care and consumer experience. A 2009 study by Phillips et al., for example, identified six roles for practice nurses, including carer, organiser, quality controller, problem solver, educator and agent of connectivity. Despite common acceptance of practice nurses in each of these roles, the study suggests that GPs do not recognise nurses as educators or problem solvers.

Allied health professionals are another major component of Australia’s primary health care workforce and are responsible for providing direct care to consumers through diagnosing, rehabilitating and monitoring health care. The use of allied health services has grown rapidly. In 2013–14, for example, 4.8 million individual allied health services were provided, and $257.5 million was paid in benefits—a 16.7 per cent growth in services from 2012–13. Sixty-one allied health MBS items can be claimed by a limited number of eligible allied health professionals, including Aboriginal health workers, audiologists, chiropractors, diabetes educators, dieticians, exercise physiologists, mental health workers, occupational therapists, osteopaths, physiotherapists, podiatrists, psychologists and speech pathologists. Most of these items are only available to consumers who have been placed on a Chronic Disease Management Plan ('care plan') and Team Care Arrangement by their GP.

In addition to the above, roles for nurse practitioners (NPs) and physician assistants (PAs) are also emerging. Both roles have existed overseas for several decades, but remain relatively new in Australia.

6.2.2 Alternative approaches

Discussions about ideal workforce composition and potential roles have been occurring for a number of years in Australia and overseas, particularly because of the unequal distribution of health care professionals across remote and urban settings.

Two approaches that could be considered for Australia in this context are:

- Expanding the scope of traditional roles to operate to “top of licence”
- Expanding and scaling up new and emerging roles
Expanding the scope of traditional roles

Bodenheimer and Smith (2013) argue that for most systems, creating new health professional roles will not be sufficient to address physician supply shortages. Instead, strategies such as empowering licenced personnel, expanding the role of registered nurses or pharmacists, creating opportunities for non-licenced health professionals, introducing consumer self-management of care and adopting technology to increase capacity have been suggested.

Role redesign has been used in several systems around the world to manage supply shortages and costs, and to improve effectiveness and efficiency. In 2001, for example, the Changing Workforce Programme (CWP) established 13 pilot sites within NHS organisations in the United Kingdom, focused on four main areas of workforce change: (1) skill mix changes, achieved by shifting tasks up or down a hierarchy, usually through role substitution; (2) job widening, achieved by expanding the responsibilities associated with different roles, or by merging the roles of two different individuals; (3) job deepening, achieved by enriching the content of roles to include more significant, substantial responsibilities; and (4) new role creation, achieved by forming a new position. Examples of role redesign include extended roles for nurses, technicians, welfare rights assistants, health care assistants, laboratory assistants and pharmacy assistants.

In 2004, role extension and redesign was listed by the NHS Modernisation Agency as the 10th element in the 10 High Impact Changes for Service Improvement and Delivery report, which focused on opportunity areas for administrative and clerical roles, assistant practitioners and advanced practitioners. One successful example of this was the Accelerated Development Programme, in which 49 Trusts and GP services worked to reduce doctors’ administrative burden by enhancing the role of medical secretaries to include greater responsibilities for consumer co-ordination, and by increasing IT use. Doctors in participating organisations reported between 0.5 and 15 hours of extra time per week, per doctor (an average of 2.75 hours), resulting in extra capacity to see between 4 and 27 additional people per week. The benefits of role extension and redesign include improvements to service delivery, consumer experience, clinical outcomes and career opportunities for staff.

Expanding and scaling up new and emerging roles

Expanding and scaling up new and emerging roles may represent another solution for supply imbalances. Two roles have recently been introduced to Australia: nurse practitioners (NPs) and physician assistants (PAs). These roles are different; most notably, NPs are licensed professionals, while PAs are unregulated.

NPs are educated to a master’s degree level, and their role includes the direct referral of consumers to other health care professionals, prescribing medications and ordering diagnostic investigations. NPs have been introduced (or are being considered for introduction) in approximately 70 countries, including the United States, the United Kingdom and Canada, where strict licencing requirements apply.
There are approximately 1,210 endorsed NPs practising across Australia,\textsuperscript{242} compared with 200,000 licensed NPs in the United States,\textsuperscript{263} where NPs recently celebrated 50 years of role development.\textsuperscript{251} In Australia, NPs were initially part of the hospital environment (particularly in emergency departments and hospital diabetes clinics), but in late 2010 they were introduced into primary health care and given limited access to the PBS and MBS.\textsuperscript{264} One study from the United Kingdom showed that consumers were generally more satisfied with care from nurse practitioners, compared to general practitioners.\textsuperscript{265} Research has also found that nurse practitioner consultations were significantly longer and consumers reported being provided with more information, with no notable differences for the other outcomes studied.\textsuperscript{265} Another study in the United States concluded that fully integrating the contributions and skills of all primary health care practitioners and, specifically, the contributions of nurse practitioners is a vital policy step towards achieving high-value health care.\textsuperscript{266}

As with the NP role, the PA role was developed in the United States over 50 years ago in response to clinician supply shortages.\textsuperscript{253,267} PAs have since been introduced to primary health care in other developed systems, including Canada, the Netherlands and the United Kingdom.\textsuperscript{267,268} Evidence on PAs’ contributions to primary health care is limited and mixed, and large knowledge gaps make it difficult to evaluate the benefits and risks.\textsuperscript{267} However, a study of consumer perceptions of PAs in the United States found that while half of the respondents would prefer a physician as their primary health care provider, 49 per cent of respondents would (in a theoretical scenario) opt for a PA or nurse practitioner, or would have no preference. Respondents’ rationales for this preference varied, though most related to greater accessibility, lower cost, perceptions of more personalised care and positive prior experience.\textsuperscript{269} Findings from one literature review suggested that PAs may be particularly well suited to rural health practices because of their diversity, cost efficiency and broad range of skills.\textsuperscript{270} This has also been suggested by the Grattan Institute (see Section 2.3).\textsuperscript{52} In Australia, O’Conner and Hooker (2007) have suggested introducing PAs to primary health care. For example, PAs could be integrated into practices alongside GPs or into rural practices, or could fill designated positions in Aboriginal and Torres Strait Islander communities.\textsuperscript{268,270} This was also acknowledged by the Productivity Commission, which suggested that physician assistants could diagnose, perform examinations, prescribe medicines, make referrals and perform other tasks currently performed by general practitioners.\textsuperscript{71}

A common concern is that care quality will be compromised if less qualified people perform certain tasks.\textsuperscript{256} It is challenging for policy makers to determine which activities are appropriate for different health professional roles, and continuous monitoring is often necessary.\textsuperscript{256} It is also necessary to ensure that appropriate training and standards are in place for all health professionals (discussed in Section 5.4 on training and standards). Inter-professional barriers may also limit the expansion of non-practitioner roles. These barriers are underpinned by assumptions about the roles and capabilities of nurses and allied health professionals, as well as the traditionally hierarchical relationship between doctors, nurses and allied health professionals.\textsuperscript{277} Although cultural shifts are hard to achieve, challenging these assumptions is critical to successfully expanding the role of health professionals.
6.3 PROVISION OF CARE COORDINATION

The term ‘care coordinator’ is used interchangeably with several other titles, including care/case manager, care facilitator, health coach, care navigator, and ambassador. Some literature distinguishes between these positions,272–274 but for the purposes of this document, they are discussed collectively as care coordinators. The core responsibilities of a care coordinator are to manage communication between stakeholders (including GPs, nurses, allied health professionals and specialists); organise care (e.g., scheduling appointments, reminders); and support consumers as they navigate health care systems (e.g., educating consumers on which health professionals to see, explaining processes). Care coordinators are particularly beneficial for consumers with complex needs, such as co-morbidities or chronic diseases, many of whom require care delivery from multiple practitioners across the health care system.274–276 In aged care, care coordination facilitates support for older people who wish to continue living at home but need support to do so.

The Commonwealth Fund’s National Scorecard argues that a lack of appropriate care coordination increases costs, undermines effective care and increases safety risks and quality risks for consumers.277 Care coordination can play an important role in reviewing the appropriateness of services, and can be set up at arm’s length from practices and providers of health services. Two elements of the care coordination role should not be confused: its practice-based care coordination role, and the case management role (as used by insurers such as motor accident and work cover schemes).

6.3.1 Australia’s system

In Australia, GPs are traditionally considered to be primary health care coordinators for consumers. Approximately 59 per cent of Australian practices employ an additional care coordinator for consumers with serious chronic diseases, but this percentage is much lower than in countries such as New Zealand (68 per cent), the Netherlands (73 per cent) and the United Kingdom (78 per cent).278 Between 2012 and 2016, approximately three million people (roughly 16 per cent of the population aged 15 or above) received care from three or more health professionals for the same condition.279 Of these consumers, approximately one third did not receive care coordination assistance from a health professional (either a GP, a medical specialist or a nurse).4 Additionally, 21 per cent of all adults aged 65 years and older self-reported at least one care coordination problem in the past two years.280

6.3.2 Alternative approaches

Although coordination roles have existed in many systems in some capacity for some time, the care coordinator role is still maturing,281 and there is a growing body of literature that focuses on how a care coordinator can make care more proactive, rather than reactive.273,276,282,283 Although there are many models for providing care coordination, this section focuses on having a dedicated care coordinator. The nature of this role can vary considerably depending on several factors, including:

- **Intensity of care:** There are various degrees of care coordination, ranging from basic administration through to intensive clinical interventions. In the United States, for example,
Indiana’s Care Select care coordination program delivers care management for low-need groups primarily via telephone, while high-need consumers with multiple chronic diseases receive intensive, in-person care coordination. Risk stratification tools can be used to identify groups of consumers that require higher levels of intervention and tailored support from care coordinators (discussed in Section 5.1 on consumer segmentation). Due to the relatively high cost of a dedicated care coordinator, it is generally more efficient for care coordinators to focus on a sub-set of high-risk, high-cost consumers. The intensity of care required by these consumers will usually dictate the number of people cared for by a care coordinator.

- **Type of care:** Systems should consider the type of coordination this role can offer: clinical, administrative, or both. Clinical responsibilities include assessing (and regularly checking) consumer health performance and needs, developing and enforcing care plans, facilitating communication between health care providers and providing self-management education. (Responsibilities do not include activities such as interpreting test results, making diagnoses or prescribing treatments). Alternatively, care coordinators can adopt a more administrative approach, helping consumers to navigate the health system, organising the scheduling of care services and following up on care plans.

- ** Appropriateness of coordinators:** Coordinators may come from a variety of backgrounds, including clinical work, social work, counselling, management and others. The American Medical Association suggests that the care coordinator role should be filled by professionals with clinical, financial, administrative or social experience, or with a background in education. The dominant model in many systems suggests nurses fill coordinator roles, but there is ongoing debate about the most appropriate candidates for care coordination.

Care coordinators can improve consumer experience by building strong, empowering relationships with consumers. These relationships can then be utilised to address consumer distrust and cynicism towards health systems, which can often lead to non-compliance with treatment or plans. Coordinators can also address language and cultural barriers, providing customer service that time-poor health professionals are often unable to deliver. Disadvantaged populations that receive services from care coordinators report improved continuity of care and are more likely to complete prescribed treatments.

Despite these advantages, health professionals need to be conscious of the extent to which care coordinators are utilised throughout the system. If multiple system levels (e.g., primary health care, secondary care, community care) develop their own care coordinator roles, there may be too many coordinators without clear, distinct roles, creating additional complexity and burdens for consumers.

Several international health systems are already using care coordinators:

- The Community Care of North Carolina PCMH program provides service to 14 local networks across the state. In an effort to improve quality of care and reduce costs, case managers are
employed by these networks, and are responsible for assisting practices in identifying high-risk consumers, providing disease management education, assisting coordination of care for access to services, and collecting performance management data.\textsuperscript{284,287} Some large practices employ full-time, on-site case managers, while some smaller practices share a care manager.\textsuperscript{284} Initial evaluations of the PCMH found that targeted care management interventions (amongst other factors) helped to achieve significant savings, particularly for high-risk consumers.\textsuperscript{287}

- In the United Kingdom, the borough of Torbay has introduced health and social care coordinators within each primary health care team. Their role is to liaise with members of the team to arrange the necessary care and support, while acting as a single point of contact for consumers.\textsuperscript{288} Coordinators have access to both health and social care records, which provide them with all the relevant details about consumers’ conditions and care, and which help them to identify complex, unstable and intermediate care cases within their zone. This enables them to work closely with nurses, allied health professionals and social care staff to arrange and modify care packages and proactively coordinate care with the multidisciplinary team.\textsuperscript{288} Although coordinators are not professionally qualified, they are expected to work closely with professional staff.\textsuperscript{288} The integration of health and social care in Torbay has had a significant impact: Hospital bed days decreased by 3 per cent between 2007–08 and 2010–11, and the average length of stay was approximately 20 per cent lower in Torbay, relative to its peer strategic health authority, South West.

- Aetna is a complex care management program, which operates in California and focuses on Medicare Advantage consumers. Case managers are responsible for approximately 1,000 consumers each, although the majority of their time and effort is focused on the top 20 per cent of consumers (i.e., the high-risk consumers, who typically have five or more chronic conditions or complex needs).\textsuperscript{289} Case managers are integrated into practices and work closely with the care team. An evaluation of the program found 24 per cent fewer hospital admissions and 39 per cent fewer long hospital stays (greater than 15 days) for participants in the program, compared to unmanaged Medicare consumers, exclusive of denials.\textsuperscript{289}

- BlueCross BlueShield PCMHs have introduced designated care coordinators across the United States. For example, the CareFirst PCMH introduced a complex case management program, which provides members with a case manager who is responsible for navigating medical care services, assisting in the development of treatment plans, and providing education on care options and community health services.\textsuperscript{290} To date, there has been no formal review of the program to evaluate its clinical and cost impact.

- Geisinger Health Plans utilise nurse care managers as care coordinators and embed them in primary health care practices to provide support to the multidisciplinary team.\textsuperscript{291} Responsibilities include consumer education, referrals to community health care services, coordination of ongoing self-management of care, follow-ups, home assessments and evaluations of long-term care.\textsuperscript{291} The degree of care intervention for consumers varies based on
risk stratification. For example, low-risk consumers receive self-management education, care plans, and follow-up phone appointments, while high-risk consumers receive more frequent phone checks, referrals, and reviews of care plans. Evaluations of the care coordinator role are not publicly available.

To date, several initiatives have been launched in Australia to create care coordinator roles in both primary and secondary care, starting with the Australian Care Coordination Trials in the 1990s (see Section 4.1.1). Examples of other initiatives are outlined below.

- In New South Wales, a chronic disease management program (CDMP), Connecting Care in the Community, focuses on consumers with complex care needs and high risk of hospitalisation. An evaluation of this CDMP found that participation in the program was associated with a decrease in planned acute service use and an unexpected increase in unplanned acute service use. However, regression to the mean (as a result of the evaluation design) makes it difficult to evaluate the real impact of the program.

- The Cancer Institute NSW also funds care coordinator positions. Care coordinators are responsible for coordinating consumer care across services, delivering consumer-centred care, and providing information and education to consumers. A 2011 evaluation of cancer care coordinators found them to be effective in improving care, particularly consumer experience. The evaluation also found that coordinators were particularly important in ensuring timely, appropriate referrals for support services.

- In Queensland, the Metro North Brisbane Medicare Local runs a Team Care Coordination program, which provides consumers with a team of registered nurse coordinators responsible for supporting GPs and the care plan team and providing follow-ups. Although no formal evaluations of clinical benefits have been conducted, initial feedback from participants has indicated positive consumer experiences and attitudes towards the initiative.

- Since 2012, Tasmania Medicare Local (through the Tasmanian Health Assistance Package [THAP]) has supported the Improving Care Coordination for People with Chronic Disease and Aged Care Clients Program (the Care Coordination Program). This program is responsible for several coordination activities, including assisting with access to services, education, tools, and resources for self-management, medical records, communication between health professionals, care plans, and feedback. These services are provided by qualified health workers (either nurses or other qualified health professionals). The program aims to target four main chronic disease types: (1) neuro-degenerative disorders (NDD); (2) chronic obstructive pulmonary disease (COPD); (3) type 2 diabetes; and (4) cardiovascular disease (CVD). Care coordinators may also access a flexible funding pool, which can be used to access goods or services to improve consumer care (such as specialist services, transport, equipment and medical aids, or community-based services). Although no formal evaluations have been undertaken, the program is expected to benefit approximately 10,000 people per year once fully operational.
The Care Coordination and Supplementary Services (CCSS) Program was introduced in 2009 as part of the Commonwealth’s Indigenous Chronic Disease Package (ICDP). The CCSS program—which focuses on referred Aboriginal and Torres Strait Islanders with at least one of five target chronic diseases—has now been rolled out across the country. As part of the program, a qualified health worker (either a specialist nurse or an Aboriginal and Torres Strait Islander health worker) functions as a dedicated coordinator, responsible for assisting with care support and navigation of the health system. A formal review of the CCSS is being undertaken in 2014–15.

Facilitators were also engaged as part of the Australian DCP to facilitate communication between multidisciplinary care teams, offer holistic care to participants and provide a central contact point for consumers and health professionals. Their main responsibilities included reviewing consumer data, booking case calls, scheduling and managing the availability of allied health professionals, educating consumers and supporting GPs and nurses. Care facilitators were independently funded by the DCP Project Management Office, which introduced an additional diabetes care expense per consumer, per annum. Only one of the trial’s intervention arms utilised care facilitation, and this group was the only group to experience improvements in outcomes.

Medibank Private’s CareFirst chronic disease management program, introduced in 2014, utilises care navigators as part of its aim to improve population health and service utilisation. Teams based in call centres are responsible for helping members organise appointments and navigate care logistics. A formal evaluation of this program has not yet been conducted.

Silver Chain is an example of comprehensive care co-ordination for older people. It offers to coordinate care at home and bring in the following elements of care: health needs (including nurse visits, rehabilitation, physiotherapy, and wound care); everyday wellness (including help with showering and grooming, getting dressed and managing medication); and everyday household tasks and community connections. Silver Chair also offers co-ordinated restorative health care programs at home through the Home Independence Program (HIP) for older consumers, and the Personal Enablement Program (PEP) for those leaving hospital. These programs have been proven to reduce the likelihood of using more comprehensive personal care services, limit the likelihood of being unable to live at home, limit hospital admissions and reduce the occurrence of death in older people within five years of joining the program.

Care coordination can also play an important role in reviewing, at arm’s length, the appropriateness of services provided by GPs and primary health care practices. Current domestic examples of this include the Department of Veterans’ Affairs, private health insurers, and motor accident and work cover schemes. As part of the Department of Veterans’ Affairs Coordinated Veterans’ Care Program (CVC), for example, community nurses from a contracted community nursing provider coordinate treatment services as per the GP’s care plan, but also regularly assess, review, update and renew
consumer care plans, factoring in their appropriateness. When dealing with motor accidents and work-related injuries, care coordinators typically help people with severe injuries find the most appropriate treatment options, while case managers coordinate administrative requirements and the insurance assessment. In New South Wales, for example, care coordinators and case managers are provided by the NSW Lifetime Care and Support Authority.

While care coordination at arm’s length from GPs has the advantage of reviewing the appropriateness of care, markets dominated by private sector insurers (such as the United States) engage in ongoing debate about the legitimacy of private insurance companies providing equitable care coordination.
Chapter 7: Primary health care systems and processes

The following chapter discusses the elements of primary health care systems and processes. It is divided into four parts:

- **Digital health**: The systems and electronic tools that improve access and quality of care for consumers, enable clinicians to make more informed decisions, enhance the connectivity between primary and secondary care, and reduce costs for providers and payers.\(^{66}\)

- **Information transparency**: The data captured by the health system and made transparent to stakeholders, including health care professionals (for example, in relation to how individual health care professionals deliver care compared to peer benchmarks) and consumers (for example, in relation to their health and the way in which they interact with the health care system).

- **Continuous quality improvement processes**: The methods and tools used to ensure that the quality of care provided by primary health care professionals is continually improving.

- **Care pathways**: The protocols used by health care professionals to standardise care across consumers, with the aim of reducing variation between health care professionals.

### 7.1 DIGITAL HEALTH

Five digital health tools are increasingly influencing the way in which primary health care is provided:

- **Telehealth and mobile health tools**: Telehealth refers to the delivery of health services via telecommunication technologies, including phones and videoconference platforms. This can be as simple as a remote GP consultation or as sophisticated as facilitating robotic surgery between facilities over vast distances.\(^{306}\) Mobile health refers to the use of mobile technologies to deliver health care services, such as health education, disease prevention, diagnostics, treatment advice and prescription dispensing and refills.\(^{307,308}\) Together, these tools enable better coverage for consumers in remote locations and rural Australia, consumers who face mobility challenges, and consumers who are active in leveraging mobile devices to manage their health and wellness. Both technologies provide fast and interactive access to the health system.

- **Remote monitoring devices**: These devices give consumers, particularly those with chronic diseases, the ability to self-manage their condition. People with chronic conditions disproportionately benefit from remote monitoring.\(^{309}\)

- **Electronic medical records (EMRs)**: EMRs enable the full integration of consumer data across primary, secondary and community care settings.\(^4\) Linking EMRs and improving information exchange leads to enhanced communication, better quality of care, reduced
medical errors, more consistent adherence to guidelines, more effective monitoring of immunisation rates and increased staff productivity. However, studies have shown that the return on investment for EMRs is often not immediately positive, and can be difficult to quantify. This is attributed to both the cost of EMR systems (which typically cost more than the paper systems they replace) and the delayed impact of stronger data linkages on quality and cost of care, which are often not realised immediately.

- **Team-based software.** This supports the provision of integrated care for people with chronic diseases by making it easier for a multidisciplinary team of GPs, practice nurses and other health care providers to coordinate their work.

- **Decision-support engines.** These harness global advances in medical research and knowledge to assist health care professionals in making informed decisions (for example, when administering medications). Decision-support engines have proven effective in preventing adverse drug events and are likely to become increasingly prevalent health care tools.

Collectively, digital health tools can improve the quality of health services and reduce costs. They also provide opportunities to track health conditions and their treatment over time, which is particularly important when treating people with chronic diseases who often have extended treatment times.

### 7.1.1 Australia’s system

Australia has a long history of investing in digital health and embedding it within the broader health care system, at both the national and the state level. In 1993, the National Health Information Agreement (NHIA) came into effect, and the Australian Government has since supported primary health care practices in implementing IT systems, electronic medical records and digital health through the Better Practice Program and (from 1998 onwards) the PIP.

Since 2000, Australia’s system has undergone four major changes:

- In 2000 and 2003, respectively, HealthConnect and MediConnect were established to leverage different health systems in Australia and trial initial standards for the implementation of EMRs.

- In 2005, the National eHealth Transition Authority (NEHTA) was created to drive digital health initiatives, supported by both the Federal Government and state governments. NEHTA’s purpose is to lead the uptake of health systems of national significance, and it has been building the foundations for a national EMR since 2010. NEHTA has established documentation and recommendations for terminology and secure messaging standards; made progress in encouraging vendor support for including specifications and standards in releases of their software products; established the elements of My Health Record; and collaborated on establishing the Unique Health Identifier (UHI) proposal. The Australian Commission for eHealth will replace NEHTA in July 2016.
In 2011, the Australian Government introduced the specialist telehealth initiative, with the dual aims of improving access to health services and up-skilling health professionals in rural and remote locations. The initiative included payment of a $6,000 incentive for joining, a $60 service incentive for specialist telehealth consultations, and a $20 telehealth bulk-billing incentive. These amounts were paid in addition to the usual MBS consultation schedule. The telehealth initiative also provided financial incentives to eligible residential aged care services to enable participation in telehealth consultations with specialists, consultant physicians or consultant psychiatrists. While the financial incentives ceased in June 2014, health care professionals continue to receive higher Medicare benefits for telehealth services. To date, the Australian Government has not introduced incentives for telepharmacy services or telehealth to the home in the primary health care setting.

In 2015, the Australian Government launched the personally controlled electronic health record (PCEHR, recently renamed My Health Record). By May 2015, approximately 2.25 million people and over 7,700 health care practices had registered to participate in the system, although utilisation of the records by health care professionals remains variable. Despite these major transitions, opportunities exist to expand the use of digital health elements. Firstly, Australia still relies heavily on physical health care, with limited scope for—and uptake of—telehealth and mobile health consultations. This is especially true in rural areas, where educational and administrative uses of telehealth are strong, but the use of telehealth technology for clinical applications has been limited due to bureaucratic and procedural barriers, as well as participant hurdles.

Secondly, limited subsidies for remote monitoring devices have restricted consumers’ ability to self-manage their chronic conditions. For example, while the MBS funds insulin pumps, continuous glucose monitoring devices and sensors are not currently available for subsidy. Finally, although financial incentives have been introduced to encourage practices to use EMRs, actual activity around electronic medical records has been limited. Approximately 2.25 million people have registered, but only 1,727 specialist letters have been written, and only 30,300 consumers have viewed their records. There has also been limited uptake of clinical decision-support tools beyond those integrated into clinical information systems.

7.1.2 Alternative approaches

Australia can draw upon a number of international approaches to digital health in order to:

- Expand online, telehealth and mobile health
- Achieve greater integration of remote monitoring devices in primary health care
- Expand integrated EMRs
- Use team-based care software
Provide decision support through advanced clinical assistance tools

Expanding telehealth and mobile health

Several international examples demonstrate the value of telehealth in the public and private sectors.

Public sector: In the United Kingdom, the Airedale NHS Foundation Trust pioneered the use of telehealth technologies to support integrated care outside the hospital environment, including aged care homes. This reduced hospital admissions from care homes by 35 per cent, accident and emergency attendances by 53 per cent, hospital length of stay by 11 per cent, and total bed days by 50 to 60 per cent.\textsuperscript{327,328} In Canada, telehealth consultations have been introduced in various primary health care settings. A detailed study of 190,000 clinical sessions found that telehealth consultations led to improved access, quality (for example, improved disease management and health coordination), and productivity. Consumers in rural locations, for example, participated in 94,000 clinical sessions and saved C$70 million in travel costs, while 25 clinicians saved 496 days of health care professional travel and avoided $20 million in inpatient costs.\textsuperscript{329}

Private sector: In the United States, WellPoint’s LiveHealth model provides both telehealth and mobile health tools, which offer consumers advice without having to see a doctor.\textsuperscript{330} Consumers can communicate with doctors in real time and choose health care professionals based on geographic location and language preference. Other providers in this sector include DrThom in the United Kingdom,\textsuperscript{331} which offers a photo upload service for visible problems, and Zoomcare in the United States,\textsuperscript{332} which provides consumers with diagnoses, treatment plans and prescriptions through e-visits. Kaiser Permanente has also successfully expanded its mobile offerings, with a study in northern California attesting to positive growth and impact trajectories for its mobile health applications (which comply with the Affordable Care Act).\textsuperscript{333} At Kaiser Permanente, care delivery has now expanded well beyond office visits, and by 2013, secure e-mails accounted for 33 per cent of primary health care consumer encounters.\textsuperscript{334}

Achieving greater integration of remote monitoring devices

Remote monitoring devices measure vital statistics and levels, facilitate real-time or delayed review by health care professionals, and are effective tools for health management, disease prevention, diagnosis and treatment advice. Using such tools, health care professionals can remotely monitor and manage the health of people with chronic conditions such as heart disease (through wireless electrocardiogram sensors and a mobile phone), diabetes (through a glucometer and insulin pump), and asthma (through a spirometer).\textsuperscript{335} iRhythm’s Zio Patch, for example, is a single-use patch (powered by Amazon’s cloud computing software) that provides continuous heart monitoring for 14 days and assists in the diagnosis of arrhythmias. Zio detects 57 per cent more arrhythmias than standard techniques, and referring health care professionals confirm that the Zio service aids in a definitive diagnosis 90 per cent of the
Wearable monitoring devices, such as the Lively watch, can reduce the number of consumers who do not recover from a fall (62 per cent of people do not recover if help does not arrive within an hour), while monitored people incur 75 per cent fewer costs compared with unmonitored people. The Lively watch also provides an emergency button to call an ambulance and can monitor daily activities including taking medication, using the shower, walking (steps per day), and opening the fridge door. Quietcare is a similar solution that uses sensors in people’s homes, passive monitoring and data analytics to interpret a consumer’s daily activity levels, providing notifications to family members or other designated caregivers when those patterns change (e.g., as a result of deteriorating dementia).

Several studies have demonstrated the benefits derived from integrating remote monitoring devices into care pathways. For example, a study of people participating in the Alere Heart Failure Program in the United States documented a 69 per cent reduction in hospitalisations and a 60 per cent reduction in costs after only one year. A study of people using the Accu-Chek Complete Glucometer and modem, meanwhile, documented a 14 per cent improvement in compliance with target glucose levels for monitored consumers after six months. Finally, a meta-analysis of 15 reviews published between 2003 and 2013 indicated that, in combination, home telemonitoring interventions reduce the relative risk of all-cause mortality and heart failure-related hospitalisations, when compared with usual care.

**Expanding integrated EMRs**

EMRs enable the integration of databases across primary, secondary and community health care settings. Expanding the use of EMRs on a system-wide basis (including the private sector) facilitates a comprehensive approach to gathering consumer data, which in turn facilitates targeted allocation of funding and other resources for the benefit of consumers. EMRs enable health professionals and consumers to better ‘connect the dots’ in a health journey, leading to improved care.

In the United States, Kaiser Permanente’s personal health record (known as My Health Manager) is directly connected to its HealthConnect consumer platform. This platform provides members with access to their health information 24 hours a day, seven days a week, as well as health management tools, which they can use to e-mail their health care professionals, schedule appointments and refill prescriptions. Kaiser Permanente’s EMR is used by Kaiser’s approximately nine million members, facilitating communication between members and health professionals (who also have access to the latest treatments to ensure members receive the right care at the right time). It has reduced ambulatory care visits by over 20 per cent, and there has also been a 26 per cent reduction in the office visit rate, a 25 per cent reduction in the primary health care visit rate, and a 21 per cent reduction in specialty care visits since the EMR was introduced.

While Kaiser Permanente provides an excellent example of an effective EMR, a study from McGill University has shown that although primary health care professionals can realise a positive financial return by implementing EMRs, benefits are typically not achieved in the short term. In the long term, however, evidence suggests that stronger data linkages improve the quality of health care and
reduce costs, thereby mitigating the cost of EMR implementation. Indeed, a research study that examined the benefits of EMRs at the practice level concluded that achieving a return on investment is a realistic goal even for smaller practices, although it noted that much of the return on investment consists of efficiency gains and increases in revenue. EMRs also deliver non-financial benefits. Geisinger—an integrated health care provider in the United States—has established an EMR system that improves the targeting of treatments, information transparency, clinical decision making and adherence to protocols, as well as reducing variation in care. In the United Kingdom, VitruCare supports consumers through internet-delivered services, offering personalised support for creating a self-care plan and converting clinical data (i.e., the EMR) into actionable information. The care plan is then discussed with the consumer’s GP and put into action. VitruCare’s features have made it easier and more convenient to track progress on a personal care plan (for example, a smartphone can be used to enter data), and consumers report that VitruCare has helped them to achieve health objectives such as weight loss.

**Team-based care software**

Team-based software has been shown to assist multidisciplinary teams in treating people with chronic diseases, and Australia, the United Kingdom, the United States and other countries have introduced team-based software with some success.

In Australia, software called cdmNet has been extensively trialled as part of the Australian Government-funded Digital Regions Initiative. This trial found that cdmNet could better integrate care for people with chronic disease and make it easier for a team of GPs, practice nurses and other health care providers to manage both chronic care and prevention. The effectiveness of cdmNet is evidenced by: (1) improved clinical outcomes for people with diabetes; (2) improved quality of care, measured by adherence to best practices; (3) improved systematic care; and (4) increased review and follow-up ratios.

cdmNet was also trialled as part of the DCP. When combined with funding incentives, it proved a successful tool for driving clinical outcomes in group two of the DCP trial. It did not change clinical outcomes by itself, however, due to modest uptake among practitioners in group one of the trial.

Other software with similar functionalities is available in Australia, including MMEx software (which was trialled through the University of Western Australia’s Centre for Software Practice) and Extensia (which uses a combination of the RecordPoint and EPRX systems). Globally, there are hundreds of software providers offering team-based medical software.

In the United States, most team-based software applications align with Health Information Exchange (HIE) guidelines. HIEs have been established in several health networks and states throughout the United States, and have been shown to increase collaboration between different levels of care (although studies have only been conducted on a small scale to date). Standards similar to those developed by the HIE also exist in many European countries, including the United Kingdom and
Decision support through advanced clinical assistance tools

Computers can help health professionals make diagnoses and select treatment choices. The advantage of decision-support engines is that they can process large amounts of information and search it quickly, exhaustively and quantitatively. IBM Watson is a useful example of a clinical decision-support system (CDSS) that uses cognitive technology to provide holistic diagnoses. It provides diagnoses by evaluating a clinical situation against a multitude of scientific journals, using natural language processing, hypothesis generation and evaluation, and dynamic learning to generate a list of responses ranked in order of probability. IBM Watson is currently being tested in the Memorial Sloan-Kettering Cancer Center (MSK) and has a successful diagnosis rate of 90 per cent for lung cancer, compared to just 50 per cent among human doctors. Clinical Point of Entry (CPOE) is another decision-support system that has been tested and reviewed multiple times. In Boston, for example, the CPOE tool was used to assess whether incidences of adverse drug events could have been avoided. A total of 180 adverse drug events occurred in 141 consumers, 75 per cent of which were found to have been preventable had the CPOE decision-support system been implemented.

7.2 INFORMATION TRANSPARENCY

Australia has the potential to improve the efficiency of its health care system by improving the capture and storage of data, as well as the dissemination and transparency of data to stakeholders, including health care professionals and consumers. Public reporting on care outcomes and consumer behaviour has had mixed results. It has been shown to improve the accuracy and quality of data, and improving transparency can also drive better service, both because consumers use the information to make decisions about their care, and because health professionals use the information to continue to enhance the quality of care they provide. There is also evidence that engaging consumers in their own care improves consumer experience and contributes to successful outcomes. However, a 2011 Cochrane review on the impact of public releases of performance data on behaviours and care outcomes showed that the evidence was inconclusive (although the study was based on a review of four North American trials, which differed from one another in methodology and outcome indicators, making comparison difficult).

7.2.1 Australia’s system

Any consumer who has registered for the national My Health Record has access to their health information, including MBS and PBS data, discharge summaries, event summaries and, in some cases, a shared health summary (if curated by a relevant health professional).
Historically, however, providing consumers with transparent information on provider performance and cost has been challenging in Australia. Private insurer nib Insurance faced opposition from industry groups when it first published ratings of health care specialists on its ‘whitecoat’ website, and from the Australian Medical Association (AMA) when it attempted to establish a ratings site in 2011.\textsuperscript{358} Despite this opposition, nib Insurance later re-launched its whitecoat website (whitecoat.com.au), which now provides publicly available contact details and ratings information (via a ‘Comparative Cost Score’ and a ‘Likelihood to Recommend Score’), as well as comments about customer service experience.\textsuperscript{359}

A limited amount of primary health care data for consumers is also published on the My Healthy Communities website—a public website that allows consumers to compare their PHN with others across Australia, based on general health outcomes, use of services, and overall experience with health services, expenditure, and GP care. Specific information on individual primary health care professionals is not available, however, and the data currently provided is from 2009 to 2013 only.\textsuperscript{360}

There is ongoing advocacy for greater transparency, and in 2012, the Australian Commission on Safety and Quality in Health Care reiterated the need for greater transparency for consumers and funders as part of the national primary health care strategy.\textsuperscript{361}

7.2.2 Alternative approaches

There are four areas in which information transparency can be provided:

- Information transparency for providers
- Information transparency for consumers about providers and health care professionals
- Cost transparency for clinical decisions in primary health care
- Public data transparency to enable vendor-led innovation

Information transparency for providers

Capturing and analysing data on quality, experience and cost helps providers (e.g., individual practices) develop an objective understanding of their performance, which encourages self-improvement.\textsuperscript{362}

In the United Kingdom, comprehensive practice-level performance data are published in three ways: primary health care statistics are published on the Health and Social Care Information Centre (HSCIC) website;\textsuperscript{41} quality outcomes are published through the QOF, which also governs incentivisation;\textsuperscript{41,363} and consumer feedback is published on the NHS Choices website.\textsuperscript{364} The comprehensiveness and ready availability of performance data in the United Kingdom means that feedback from both payers and consumers can be quickly addressed at the GP practice level. Performance data are also used for benchmarking and incentivising quality and outcomes under the QOF, which forms part of the general medical services contract between providers and the government.\textsuperscript{127} The QOF contains over 120
indicators, which cover clinical processes for managing particular conditions.\textsuperscript{41} Most of the QOF evaluation studies indicate that the initiative has reached most of its objectives,\textsuperscript{365} and there has been a notable performance increase for most of the clinical indicators.\textsuperscript{364}

The QOF has had its critics, however. A particular concern relates to the lead times for developing performance indicators. A comprehensive review of evidence is needed to validate these indicators, and critics fear that indicators may be superseded by the time they are implemented. It has also been suggested that the incentives are counterproductive (as discussed in Chapter 4).\textsuperscript{41} Regular reviews of the QOF are mitigating these concerns, and there is regular consultation between payers, providers and consumers to continuously improve the QOF framework.\textsuperscript{127} While few health systems include consumer feedback in performance metrics for providers and health care professionals, the NHS has also incorporated a 'Friend and Family' test into the NHS Choices website, which asks consumers whether they would recommend their GP practice to friends or family.\textsuperscript{364,127}

In the United States, there are hundreds of individual feedback schemes.\textsuperscript{127} In the public sector, which is governed by the Medicaid and Medicare schemes, performance data are provided to both providers and consumers.\textsuperscript{127,365} The Centres for Medicaid and Medicare Services (CMS) also publishes provider data through its website and holds regular seminars for health care professionals to improve performance and compliance with set quality metrics. The CMS' Physician Feedback Program (PFP), meanwhile, provides comparative performance information to health care professionals and medical practice groups in order to improve the quality and efficiency of medical care provided to Medicare consumers. In the private sector, performance data are often not publicly available. Despite this, however, integrated private online platforms have started to rate physician practices, and providers like Kaiser Permanente and ChenMed report quality metrics and physician ratings as part of their continuous quality improvement programs.\textsuperscript{366}

**Information transparency to consumers about health professionals**

Increasing information transparency for consumers about health professionals involves a bi-directional sharing of information, allowing the consumer to see information about a health care professional’s performance and quality, and to provide feedback/ratings for the health care professionals they see.

There are several international examples of health care systems with increased transparency around health care professional performance. In the United Kingdom, for example, the NHS Choices information service provides consumer ranking for GP practices, including rankings on working hours and location, the range of services offered and appointment scheduling systems.\textsuperscript{364}

In the United States, ZocDoc allows consumers to compare doctors online and book online or in-person appointments. A recent study on ZocDoc highlighted the increasing importance of consumer reviews, demonstrating the following: 1) an increase of half a star in a ZocDoc rating (on a scale of one to five stars) leads to a 10 per cent increase in the likelihood that a physician will fill an appointment; 2) health care professionals with a higher number of reviews have a higher likelihood of filling an
appointment; and 3) consumer ratings capture consumers’ visit experience and the educational differences of health care professionals.

**Cost transparency for clinical decisions in primary health care**

Cost transparency for consumers includes making the prices of investigations and prescriptions apparent at the time of ordering.

In the United States, Medicare and Medicaid (CMS) have released over 1,800 data sets, which include statistics on Medicare spending, costs, utilisation, and quality at the state, hospital referral region and county level. CMS releases include information on the quality performance of hospitals, nursing homes, and other providers like small practices. In 2014, CMS released data on Medicare payments for services provided by 880,000 health care professionals, including the number and type of services provided by each physician, the average allowed payment, and the average Medicare payment paid to health care professionals. In 2015, CMS released data on physician utilisation and announced that entrepreneurs and innovators would receive full access to Medicare data. Releasing the data set is expected to inform consumers’ and insurers’ provider choices, and to ultimately reduce variation in health care professionals’ fees. To date, the data release has been successful in focusing attention on specific examples of high-cost services, and the data release has since been expanded.

**Public data transparency to enable vendor-led innovation**

Numerous companies in the United States have become innovators in digital health care, driven primarily by the CMS data releases. Innovative new companies that leverage open data sets include:

- **Sensentia**—a mobile application that anticipates and automates the inquiry system process of any health insurance company
- **Kuveda**—an online platform that provides options in personalised cancer therapy to consumers and health care professionals
- **RowdMap**—a tool that enables users (primarily payers, providers and researchers) to view and analyse benchmark data from hospitals, physicians and geographies
- **Carevoyance**—a platform that maps physicians across the United States, based on financial information, prescription activity, consumer interaction and other physician relationships
- **HealthyMe**—a consumer engagement and intervention web platform and mobile application that supports population health management for newly discharged consumers, as well as those who might be at risk of chronic conditions (for example, diabetes)
- **Proteus Digital Health**—a company offering a medicine adherence program through an ingestible sensor ‘pill,’ which combines the capabilities of wearable, mobile and cloud computing technologies.
7.3 CONTINUOUS QUALITY IMPROVEMENT PROCESSES

Continuous quality improvement (CQI) processes help a system to iteratively identify barriers to improvement, implement changes, and measure impact. Although there are numerous CQI models, they all aim to improve quality of care, and they typically include discussions about performance outcomes amongst health care professionals, followed by idea-generating sessions to identify continuous improvement opportunities, both for the individual practice and the system as whole. They have been shown to decrease variation in care quality; improve consumer care and satisfaction; increase efficiency; encourage closer cooperation and teamwork among primary and secondary care professionals, departments and health networks; increase job satisfaction among staff; and decrease treatment complications.

CQI processes and performance management tools can be implemented at all levels of the primary health care system, including the federal level, state level, PHN level, practice level and individual health care professional level. In primary health care, CQI has typically been attempted in large institutions and non-clinical domains, where it has motivated considerable efforts to refocus health care delivery. At the practice level, quality improvement faces unique challenges because of the diversity of consumers and problems, the small scale of many practices, and the low volume of specific conditions. However, a trial with 44 primary health care clinics in the United States identified three factors as critical to successfully implementing CQI processes in primary health care environments: (1) create a deep understanding of CQI among health care professionals, nurses and administration; (2) complete all the steps of the CQI process; and (3) create opportunities to discuss the process as a team.

The lack of data on care processes and outcomes in primary health care is an ongoing problem for applying evidence-based practice. CQI approaches have the potential to address this challenge by facilitating the use of local-level data, whilst utilising suitable standardised data sets that are available system-wide.

7.3.1 Australia’s system

To date, Australia has not implemented a national CQI process in primary health care. However, the new PHN performance framework plans to provide a mechanism to monitor and improve primary health quality and performance. The framework will include three tiers of performance (national, local and organisational) and use existing data collections where possible, and the performance information on all PHNs will be made publicly available. Combined with publicly available guidelines, reporting performance outcomes allows PHNs to benchmark themselves against one another and identify areas for improvement.

* Examples in health care include FADE (Focus, Analyse, Develop, Execute), PDSA (Plan, Do, Study, Act), Lean Six Sigma and Total Quality Management.
Any CQI system developed in Australia will need to include consumer feedback. ‘Standard 2’ of the National Safety and Quality Health Service (NSQHS), developed by the Australian Commission on Safety and Quality in Healthcare (ACSQHC), requires that 1) Australian health organisations and systems establish governance structures to form partnerships with consumers and carers; 2) consumers and carers are actively supported to participate in designing care; and 3) consumers are included in the ongoing monitoring, measurement and evaluation of health system performance. Similarly, the Royal Australian College of General Practitioners (RACGP) sets out several criteria to ensure consumer collaboration, of which one is called ‘patient feedback.’ This outlines five indicators for GP practices: 1) processes for seeking and responding to feedback from consumers; 2) establishment of a complaints resolution process; 3) a process to actively seek feedback about consumers’ experiences of the practice every three years, using a validated consumer experience questionnaire or specific method approved by the RACGP; 4) an ability to demonstrate improvements, where progress has been made in response to analysis of consumer feedback; and 5) provision of information to consumers about practice improvements made as a result of their input.

7.3.2 Alternative approaches

Continuous quality improvement processes can be implemented in a number of different ways in public health care systems at the national, local and practice level. There are also examples of CQI programs that have been successfully implemented in the private sector, some of which span across primary and secondary health care.

Capio—a leading pan-European health care provider, which offers a broad range of health care services through its hospitals, specialist clinics, and primary health care—has made CQI the core of its business. Capio’s approach is centred on regular quality improvement reviews, which drive better treatment outcomes and reduce care-related injuries. Capio argues that quality, in turn, enables higher productivity and reduces per capita cost, which means that the existing budget can be spent on providing health care to a larger number of consumers. Capio’s model consists of three steps: analyse performance indicators, implement changes, and measure outcomes. Measuring outcomes is a team-based effort and is integrated into the overall clinical governance. The system is reinforced through three sets of quality performance indicators (QPIs): clinician-reported outcome measurements (CROM); patient-reported outcome measurements (PROM); and patient-reported experience measurements (PREM) (Figure 7.1).

Capio applies its CQI models across primary care units, specialist clinics, local hospitals and emergency hospitals. Through its integrated approach, Capio can provide the right care environment at the right level for consumers, avoiding costly and unnecessary hospitalisations.
In Australia, a number of programs have tested CQI processes, including the Australian Primary Care Collaboratives (APCC), the DCP, and the Lowitja Institute’s recommendations for a national CQI framework for Aboriginal and Torres Strait Islander primary health care.

The APCC is delivered by the Improvement Foundation and is a federally funded program. It brings together primary health care practitioners in a field-and-forum setting to deliver bite-sized, incremental quality improvements in processes using their proprietary ‘Model for Improvement.’ Since 2004, the APCC program has helped over 3,000 practitioners improve clinical outcomes across a range of issues, including access and care redesign, diabetes, coronary heart disease, chronic obstructive pulmonary disease, and Indigenous health. Results have been positive, including a 70-fold increase in the number of Diabetes Risk Assessments completed by 37 participating practices.

The DCP trial implemented a CQI process between the National Program Management Office and primary health care organisations, and between primary health care organisations and general practices. The CQI process consisted of six steps: (1) define a common performance dashboard and goals; (2) understand performance; (3) diagnose issues; (4) agree remedial actions; (5) plan and execute actions; and (6) follow up on progress. While CQI processes on their own did not significantly change practices, combining CQI processes with alternative funding models improved clinical outcomes.

Funding for quality improvement in the Aboriginal and Torres Strait Islander primary health care sector started in 2002 with the introduction of Continuous Improvement Projects. To date, however, these efforts have lacked national coordination, prompting a September 2014 recommendation to the
Department of Health for a national CQI framework for Aboriginal and Torres Strait Islander primary health care.\textsuperscript{384}

7.4 CARE PATHWAYS

Care pathways are “an integrated source of information on referrals, specialist advice, diagnostics, GP procedure subsidies and consumer handouts, all of which have been collectively agreed by health professionals from across the health system”\textsuperscript{385} and can be used to populate care plans for individuals. Care planning is particularly important when facilitating appropriate care for consumers with chronic diseases or complex needs.\textsuperscript{386} While pathways are mostly implemented at the meso and micro level, they could potentially be established for a whole segment, such as rural and remote health care.\textsuperscript{323}

7.4.1 Australia’s system

While Australia has a multitude of general clinical guidelines, localised care pathways are not universally available. The National Health and Medical Research Council (NHMRC) provides a collection of clinical guidelines via a free-to-access online portal,\textsuperscript{387} and there are currently 213 NHMRC guidelines for GPs and 49 guidelines for allied health professionals. A further eight guidelines for primary health care are currently under development.\textsuperscript{388} Guidelines are also available from multiple organisations, often covering the same conditions, which can create confusion and variation in care between providers. Both NSW Health and the South Australian Department of Health, for example, provide guidelines for managing acute asthma in children. There are also six separate guidelines for type 2 diabetes.\textsuperscript{388}

7.4.2 Alternative approaches

The main approach is to create locally standardised care pathways for common chronic diseases. In New Zealand, for example, Canterbury Care’s HealthPathways is a web-based information portal, which supports primary health care professionals to plan care through primary, community and secondary health care systems.\textsuperscript{385} The system provides information on referrals, specialist advice, diagnostics, GP procedure subsidies and consumer handouts,\textsuperscript{386,389} and has been designed around a set of locally agreed best practices. With almost 500 pathways in existence, GPs can now tackle rare cases more easily.\textsuperscript{390} Rolling out HealthPathways has reduced both the acute and elective medical length of stay in secondary care by 13 per cent and 6 per cent, respectively.\textsuperscript{391}

The system has been generally well received by health professionals, with 80 per cent of primary health care professionals now using HealthPathways more than six times per week.\textsuperscript{392} Between 90 and 95 per cent of primary health care professionals consider the system easy to use and a valuable tool for the improvement of care, and approximately 50 per cent reported that it had improved their relationships with consumers and hospital clinicians. Approximately 60 per cent of hospital clinicians reported improvements in referral quality, triage and working relationships with general practices since the
introduction of HealthPathways. There are, however, concerns about the size of the website and its prescriptive nature, and the platform has increased the duration of consultations.

Standardised, locally tailored care pathways have also been trialled in Australia. Canterbury’s HealthPathways, for example, are currently being rolled out in approximately 25 per cent of Australian PHNs, including Hunter & New England, the Mid & North Coast in New South Wales, and Perth Central & East Metro PHNs in Western Australia. (In the Hunter PHN in New South Wales, a customised version of HealthPathways has been rolled out to suit local conditions.) While comprehensive evaluations of these platforms have yet to be conducted, the first study of HealthPathways in Australia suggests that it has strengthened relationships between GPs and secondary care specialists. The benefits of the HealthPathways platform stem from its process of engagement with the entire health sector, including specialised community groups, allied health professionals, GPs, local hospital network representatives and specialists, which creates an opportunity for dialogue and increased communication between professionals and sectors. The ‘Map of Medicine’ platform—a European alternative to Canterbury’s HealthPathways—is also currently being rolled out in the Metro North PHN in Perth.

The DCP also trialled standardised care pathways for people in different risk groups, which were incorporated into care plans by general practices. The pathways contributed to changing referral patterns, significantly increasing the number of people who saw diabetes educators, exercise physiologists and dieticians.
Conclusion

Australia’s health system already achieves excellent health outcomes in many areas. In the coming decades, however, health systems in Australia and around the world will need to adapt and evolve in order to navigate the changing health care demands of the 21st century, including a growing burden of chronic disease and rapidly increasing health care costs.

As this paper has demonstrated, there are a number of ways in which Australia could organise and run its primary health care system for people with chronic disease:

■ **Governance and financing:** Alternatives include better integrating primary and secondary care governance structures, introducing new funding sources and incorporating new funding mechanisms.

■ **Consumer interaction with the health system:** Alternatives include adopting strategies to segment consumers in order to tailor resource allocation and care pathways, improving care coordination (particularly for people with chronic diseases) by introducing health care homes, and increasing consumer empowerment by expanding education and self-management programs.

■ **Primary health care professionals:** Alternatives include strengthening clinical leadership and governance, expanding the roles of health care professionals other than GPs, and introducing specialised care coordinator roles.

■ **Systems and processes:** Alternatives include expanding Australia’s digital health infrastructure, improving information transparency, implementing continuous quality improvement processes, and creating locally standardised care pathways for common chronic diseases.

Australia can be aided in its efforts to make improvements in these areas by drawing on, and learning from, the experiences of others in the international community. This paper has summarised the main approaches adopted by other countries around the world, and it is hoped that these examples provide a useful foundation for discussions about the future of primary health care in Australia.
Bibliography


37. OECD. Prevalence of Chronic Conditions; 2011.


87. Counties Manukau Health. 20,000 Days Campaign; 2014.
89. Middleton L, Mason D, Villa I, Cumming J. Evaluation of the 20,000 Days Campaign; 2014.
93. NSW Government. Integrated Care; 2014.
100. Biggs A. Private Health Insurance in Primary Care: Overview of Issues. Flagpost, Parliamentary Libr; 2015.


104. Stock S, Starke D, Altenhofen L, Hansen L. Disease-Management Programs Can Improve Quality of Care for the Chronically Ill, Even in a Weak Primary Care System: A Case Study from Germany; 2011; 24(November).


107. Australia Centre for Health Research. A Proposal for Affordable Cost Sharing for GP Services Funded by Medicare; 2013; (October).


147. Singh Ham, C. D, Programme PCTC. Improving Care for People with Long-Term Conditions: A Review of UK and International Frameworks; 2006:35.
151. Sobel D. Improving Health And Cost Outcomes With Self Care And Chronic Disease Self-Management, NatPaCT Conference Presentation; 2003.
153. BlueCross BlueShield CareFirst. Patient-Centered Medical Home Program; 2011.


187. Gillian Caughey et al. Multiple Chronic Health Conditions in Older People; 2013.


293. General Practice NSW. Overview of NSW Chronic Disease Management Care Coordination Programs; 2015; (February).


304. NSW Lifetime Care and Support Authority. *What Is the Role of the Coordinator and the Case Manager?* 2015.


312. Loucks D, Keysor D, Peters L. Electronic Medical Records the Thirty Year Struggle for Adoption; 2010


319. Media release by THE HON SUSSAN LEY MP. Minister for Health Patients to get new myHealth Record; 2015.

320. MBS. Telehealth Program Guidelines 2011-12; 2012


323. Humphreys J, Wakerman J. *Primary Health Care in Rural and Remote Australia: Achieving Equity of Access and Outcomes through National Reform*; 2008


338. Olson W. Remote Monitoring Pilot Improved Quality of Life, Increased Staff Efficiencies and Decreased Care Costs. Cast Case Study. (202).


350. KBV. *IT in der Arztpraxis - Verzeichnis Zertifizierter Software*; 2015.


381. World Health Organization. Primary Health Care Continuous Quality Improvement (CQI ) Tools Medical Devices and eHealth Solutions; 2011.


384. Lowitja Institute. Recommendations for a National CQI Framework for Aboriginal and Torres Strait Islander Primary Care; 2014.


