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COLLABORATION

The Case for Change Towards Universal and Sustainable National Health Insurance & Financing for Australia: Enabling the Transition to a Chronic Condition Focussed Health Care System

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Associate Professor Francesco Paolucci

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Associate Professor Francesco Paolucci and Associate Professor Manuel García-Goñi

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The Australian Health Policy Collaboration

The Australian Health Policy Collaboration was established at Victoria University in 2015 to build from the work of the health program at the Mitchell Institute over the previous two years. The Collaboration is an independent think tank that aims to attract much required attention to the critical need for substantial and urgent health policy reform focused on addressing chronic disease on a national scale.

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Foreword

Australian governments have maintained a strong focus on health policy over many years. Much of that focus has been cast as a reform agenda, addressing pressures facing health expenditure and public funding of health care; pressures on hospitals and the health workforce, and pressures arising from an ageing population, increasing chronic diseases affecting more of the population, and the rising costs of health treatments and technologies that manage those chronic diseases and prolong life.

Equally pressing is the evidence that Australia's health policies, funding and service models are failing about one quarter of the population. Chronic conditions such as diabetes, stroke and depression affect more than seven million Australians. The proportion of people with a chronic condition increases with age, and almost one in three Australians aged 45 or over have at least one chronic health condition. The nation cannot afford to ignore an issue that affects so many of its people.

A large part of the problem is that funding and service models are not geared towards preventative healthcare. Indeed, our lack of policy attention to this area means that access to preventative care is an optional extra, often limited to those with the financial and social capacities to access strategies that improve or maintain their good health. If we had maintained this same attitude towards the most prevalent health conditions of the past (infectious diseases), we would not have the economy or nation we now have today.

The idea that health policy now should have a strong focus on the contemporary health challenge of chronic disease prevention and management is not new, and it has been a focus of both current and previous Australian governments who have acknowledged it as a major challenge. But the complexity of our federated health arrangements – in policy, funding and service delivery – along with rising health costs, the ageing of the population and the growing impact of preventable chronic diseases, altogether mean that unless we make significant changes, the costs of preventable illness and resulting healthcare demand will continue to be a blinding headache for governments and individuals alike.

The Australian Health Policy Collaboration (AHPC) has been established at Victoria University to propose, promote and inform a whole of population approach in health policies, funding, institutional arrangements and service models to better address contemporary health challenges facing Australia.

The AHPC commissioned this paper to consider how best to inform health funding and financing policies in Australia to enable effective and efficient health service provision focussed on prevention, treatment and management of chronic disease, through a population health approach.

We aimed to assess the evidence for funding arrangements for universal health care access that would significantly improve the prevention and coordinated management of preventable and established chronic diseases through health insurance arrangements designed to enable:

- health service providers to recognise and respond to risk factors contributing to the development of preventable chronic disease using both a population health approach and individual patient management;
- coordination of care between health service providers for individuals with established chronic disease; within a universal health care access funding and service system.

Written by Associate Professor Francesco Paolucci of Murdoch University and Associate Professor Manuel García-Goñi, of the University of Madrid, this paper has been developed in discussion with a national expert advisory group. It summarises the evidence of the contributions and capacity for health insurance and financing arrangements to enable greater capacity for health service provision to engage in prevention, early intervention and to provide integrated chronic health care treatment and management.

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The paper considers the current state of financing of health services in Australia, relevant to chronic disease and the ageing of the population; compares Australia's approach to that of other like nations; identifies and analyses key preconditions of high performing chronic-care focussed healthcare systems and applies these to the current Australian arrangements; and proposes a policy implementation roadmap for the Australian system to move towards funding arrangements to provide a universal and sustainable health insurance and financing system that would enable better prevention and management of chronic disease for the Australian population and community.

Policy and funding arrangements need to be based on the evidence of what works to meet current challenges. We need to reorient Australia's health policy and funding arrangements to be inclusive of, and focussed on, the long term care requirements of chronic diseases; and on the prevention and early intervention in the trajectory of chronic diseases to avert preventable ill-health and its consequences, including social and economic impacts and costs.

A national discussion about how to re-engineer current arrangements to provide systemically, effectively and efficiently for chronic health conditions, their treatment, management and prevention, is now a pressing issue – and needs to encompass health policy and planning, the organisation of the health workforce and health infrastructure, models of healthcare delivery and the provision of care, the supply of health services and its relationship to changing demand, and the financing of health services and care.

This paper proposes a serious public discussion on the financing of health services and care in Australia, focussed on chronic health conditions, and drawing on the evidence emerging internationally of the health insurance and financing models that better address chronic health care needs. We invite readers to engage with us in this discussion.

Rosemary Calder

Director

Australian Health Policy Collaboration

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Executive Summary

In recent decades health expenditure has increased substantially in Australia, as it has in most other developed and developing countries. This increase is largely due to more expensive healthcare technology, ageing populations, and the escalating contribution of chronic conditions to the burden of disease.

Rising health expenditure poses huge challenges for health providers, insurers, governments and consumers and the general population. Commonly in Australia, these challenges are reflected in an increasing focus on cost containment, on better targeting, greater efficiencies and quality. However, underpinning and driving much of the rise in health expenditure is the extent to which chronic health conditions have now become the predominant illness needs within the Australian population as in many other countries; and on the limited and fragmented capacity of existing health funding and service arrangements that have been designed to respond to acute illness and injury. The resulting limitations and disconnections across the span of health services required to provide for chronic health conditions within the population and for individual care contributes both directly and indirectly to inefficiencies and to consequential rising and avertable costs – in health expenditure and in other public and private costs.

The national health system in Australia provides publicly financed universal coverage for the health care services and products through the medical benefits scheme (MBS) and the pharmaceutical benefits scheme (PBS). There is a huge mix of public and private health service providers delivering services that are remunerated through these arrangements, and about half of the population has purchased some kind of supplementary health insurance (besides the public insurance coverage) from private providers. As a consequence there is considerable duplication of insurance arrangements and expenditure, producing significant inefficiencies in Australian health financing and health service provision. As well, because both public and private insurance pays for single episodes of care in the main, through a principal service provider, service capacity to provide for chronic health care is highly fragmented. A further and startling fragmentation in the Australian health care arrangements is the exclusion of private health insurance from the capacity to purchase or pay for primary health care. These are all crucial problems for dealing with the challenge of the rising impact of chronic health conditions - chronicity - in population health needs.

Over recent years, different initiatives to deal with chronic care have been implemented, such as the Chronic Care Model and the Kaiser Permanente Pyramid model in the USA. Both these models emphasize the importance of the integration and coordination of care with primary care as a central provider, the implementation of chronic disease management programs out of which the patient becomes his own first health provider, and the implementation of public health and preventive strategies to avoid the incidence of health problems and improve on early diagnosis and treatment when it cannot be avoided. Ham (2010) presented integration of care as one of the main characteristics of a high performing chronic care system and all international experiences go in the same direction. The care needs of an ageing population with increasing complexity of chronic health conditions is a particular issue for the Australian health system requiring effective and appropriate connections between health care, ambulatory care and residential care, connections that are currently poor and complex because of funding and the resulting service delivery arrangements.

These issues have had continuing attention from Australian authorities, such as the Productivity Commission, the Australian Government Department of Health and the National Commission of Audit and a range of options for improvement have been canvassed.

The perspective that we take in this report to the Australian Health Policy Collaboration is in principle more aligned with that of the National Commission of Audit. Our focus is on the adequate design of incentives for all agents in the market (individuals, insurers or providers), so that health expenditures can be controlled in tandem with an active search for efficiency in a health service provision market re-oriented towards the

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health needs of a population with rising levels of chronic health conditions. Such re-orientation requires both a focus on prevention of avertable chronic disease onset and on reduction in avertable health, social and economic impacts of established chronic disease and capacity to establish integrated health care for an ageing population with increasing prevalence of complex chronic health conditions.

We consider that this is a good starting point for the inclusion of chronic care into the discussion on the health reform in Australia. Chronic care, integrated care, social care, and prevention should become the pillars of Australia's health system, together with the long-established capability in acute and trauma services and in infectious diseases.

The principal challenge for Australia is how to reorientate existing health funding and service arrangements through better design to be inclusive of, and focussed on, the long term care requirements of chronic diseases; and on the prevention and early intervention in the trajectory of chronic diseases to avert preventable ill-health and sequelae, including those in social and economic impacts and costs. A national discussion about how to re-engineer current arrangements to provide systemically, effectively and efficiently for chronic health conditions, their treatment, management and prevention, is now a pressing issue – and needs to encompass health policy and planning, the organisation of the health workforce and health infrastructure, models of healthcare delivery and the provision of care, the supply of health services and its relationship to changing demand, and the financing of the health insurance system.

This report looks at how the increasing prevalence of chronic conditions in the Australian community has changed the healthcare needs of the population and the proportion of health expenditure devoted to the health and related care needs of people with chronic health conditions. We review the chronic care policies implemented in various health systems internationally, and propose options for new health funding arrangements for Australia to enable a universal and sustainable health system that would systematically provide for chronic health conditions.

Chapter 1 looks at a range of healthcare systems internationally. In particular, we look at the increasing trend in health expenditures in a number of countries that are of interest and relevance because of their contemporary policies and funding arrangements that are focussed on improved responses to the rise of chronic health conditions in their populations. This discussion considers the different components of health expenditures within these country systems to understand how these arrangements have evolved, for example, by looking at how different countries have changed the relative weight of hospital care, ambulatory care, or nurse and residential care in their policy focus and funding strategies. We look at the health expenditures within these countries of interest on chronic health conditions, and consider the role of informal care and social care for people with chronic health conditions, taking into account its importance and its effect in the labour market.

Chapter 2 considers component parts of the identified drivers of health expenditures. We consider the evolution of health expenditures in the context of ageing in the Australian population, the increasing intensive use of technologies in healthcare provision, the increasing prevalence of chronic conditions and associated costs, and present a projection on how we expect this trend to continue through the next decades, and the relevance of that trend for Australia.

In Chapter 3 we present the case for a re-designed funding model for the health insurance market in Australia. We briefly provide an overview of the different international health insurance models in terms of financing and provision and the role of private and public forces in the market and discuss a number of the emerging models of funding arrangements aimed at improving health service capacity and health care for chronic health conditions. The current performance of Australia's health arrangements in responding to chronic health conditions is discussed, particularly the fragmentation of care and the complexity and duplication of funding between private and public, acute and primary care arrangements. In section 3.4 we set out the case

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for reforming Australia's health care funding and introduce the potential of an integrated health insurance funding model to address the challenges we have outlined.

Chapter 4 considers a number of international health systems of interest for Australia and how they are responding to the challenge of chronicity – the rise of chronic health conditions in their populations. Four national health systems are discussed including the UK model of primary care organisation and financing through Primary Care Trusts and the national Quality and Outcomes Framework. The UK presents an interesting model of public insurance for social care that is financed through local taxes, and a very inspiring discussion on the future role of hospitals within the framework of integrated care, and the evolution of multidisciplinary teams. Canada is another country of interest for Australia's potential arrangements. Canada demonstrates good evidence of the effect of implementing disease management programs for people with chronic health conditions, and within the national health system, which has a high presence of private primary care doctors. Canada has implemented a blended reimbursement system for medical services encompassing fees for service, pay for performance, and financial incentives for the correct implementation of chronic disease management programs and preventive strategies. New Zealand and Spain are two other countries with national health systems that have undertaken re-development of health financing arrangements in response to the challenge of chronicity. In section 4.2 we look at examples of social health insurance systems. The Netherlands has implemented a health insurance system with public provision through social contributions and also with private provision through private insurers that are reimbursed using risk adjustment, promoting incentives for efficiency. This bundled payment model addresses the goal of fostering better coordination and integration of care, together with the implementation of chronic disease management programs and preventive strategies. Germany has implemented an additional social contribution directly linked to the financing of social and long term care for means-tested individuals that we also take into consideration in our discussion and development of options for Australia. Japan and South Korea also present interesting social health insurance approaches. Finally, we consider two countries with a high presence of demand side cost share: USA and Singapore and then discuss the features of the health funding arrangements in these groups of countries which offer insights for Australia.

The barriers in Australian arrangements to the development of a universal health insurance system focussed on chronic health conditions are discussed in Chapter 5. We first propose the benefits to be derived from the universal provision of health insurance specifically focused on people with chronic health conditions and look at the market failures that we find in the demand for insurance for chronic health conditions. We review the health economics literature on the definition, problem, and solutions for individual behaviours that reduce the likelihood of spontaneous take-up of such insurance, the presence of moral hazard given the asymmetries of information in this market, the problem of self-selection based on risk perceptions that might distort the demand for such insurance, and the issue of the intergenerational cost depending on the funding scheme. Section 5.3 presents an analysis of the market failures and obstacles to the development of the chronic care insurance market that is focused on perverse supply side incentives. We consider the problems of transaction costs, correlated risks, the possibility of risk averse individuals in the population given the increasing uncertainty in the evolution of health expenditures even for health insurers, and the traditional problems stemming from the asymmetries of information among the different agents acting in this market: supply induce demand, risk selection, or adverse selection.

After looking at all the barriers and considering the tools recommended in health economics literature to address them, Chapter 6 uses recent literature to identify the essential foundation components for a health insurance system focussed on chronic health conditions to be competitive, efficient, and affordable. Those requirements are classified into those affecting demand: such as the freedom to choose an insurer, or the transparency in the information needed given the potential for individual risk aversion, or the need to guarantee access to a basic set of services and to a safety net. Requirements in respect of the supply side

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include managing asymmetries of information and the potential for risk aversion by insurers; the freedom to contract and integrate agents from different levels of the healthcare provision, or the need to effectively provide for and monitor quality. With respect to the market function, competition in price and other qualities is necessary with cross subsidies between high and low needs population groups ensuring full participation without perverse incentives for insurance avoidance within demand, and risk selection in the supply. At the same time, in order for a health insurance system focussed on chronic health conditions to be financially sustainable, there have to be incentives for efficiency in reimbursements to health insurers, and financing arrangements need to be based on either of the options of pay as you go, or a funded model, acknowledging the complexities of each option.

Our final chapter considers three different health insurance arrangements relevant to the challenge facing Australia: a purely public insurance model; a mandatory private health insurance model with mostly private financing, and, a mandatory private health insurance market with regulated competition. Each model is then compared with the others, and we conclude that the model that most effectively addresses Australia's needs is the third model, a mandatory integrated (public and private funding) health insurance market with regulated competition, as this includes the essential foundation components of a universal and sustainable health insurance model designed to provide for chronic health conditions. We include, in an appendix to this report, an outline of an establishment strategy and time line to provide Australia with full coverage through such a health insurance framework within 10 years.

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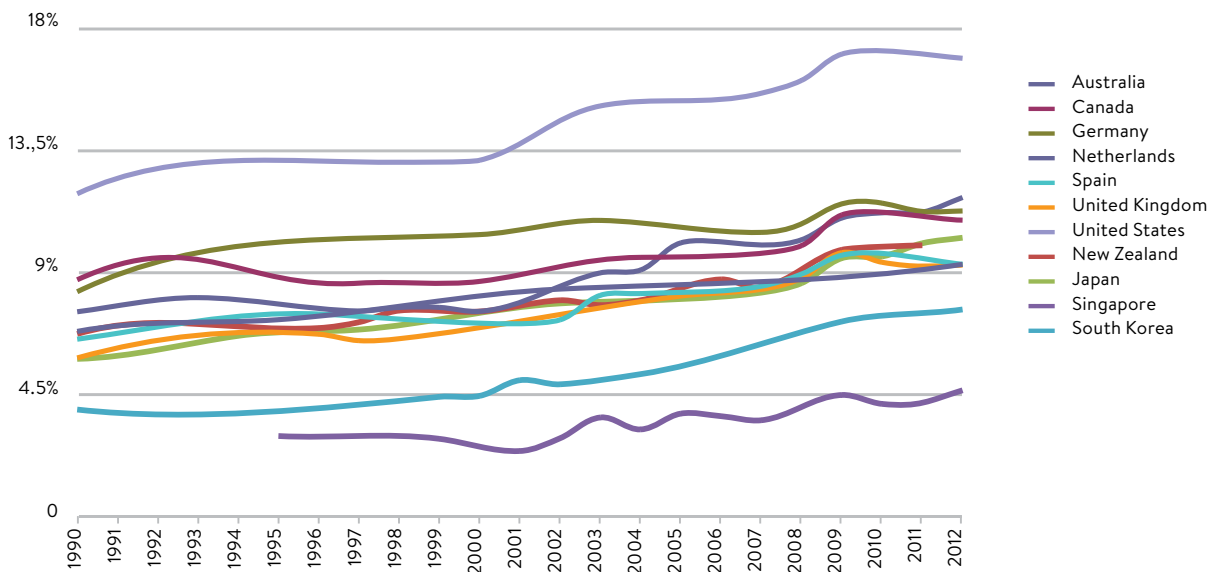
1. Economic and social healthcare costs

Health expenditure – in total, per capita and as a proportion of gross domestic product (GDP) – has increased greatly in Australia and other more developed countries since the middle of the 20th century. This increase has been driven by more intensive use of better but more expensive healthcare technology, costs inevitably associated with ageing populations, and the growing contribution of chronic conditions to the overall burden of disease. In this chapter we show how health expenditure has increased in Australia and comparable high-income countries over recent decades and explore the components of expenditure and their trends.

1.1 Trends in healthcare expenditure

Health expenditure as a proportion of GDP has increased steadily in more developed countries in recent decades (Figure 1), regardless of how their individual health systems provide and finance health services. Researchers and health policymakers worldwide are seeking to understand the determinants of this trend and the health reforms are required to address it.

FIGURE 1: Health expenditure as a proportion of GDP, 1990-2012.



Sources: OECD (2014), AIHW (2014), and World Bank (2015).

Australia spent about seven per cent of GDP on health in 1990 but more than nine per cent in 2012. Similar rises occurred in other countries with national health systems, such as the United Kingdom (UK), Canada, New Zealand and Spain, and in countries with social health insurance such as Germany, The Netherlands (8–9% of GDP in 1990, 11–12% in 2012), Japan (about 6% in 1990, 10% in 2012) and South Korea (about 4% in 1990, 8% in 2012). In Singapore (with the lowest health expenditure as a proportion of GDP among countries shown in Figure 1), health expenditure increased from about three per cent in 1995 to nearly five per cent in 2012. The United States, with a largely private health insurance system (bolstered by public federal programs such as Medicare and Medicaid), is the highest spender on healthcare by proportion of GDP (12% in 1990, 17% in 2012).

Across the countries listed in Figure 1, the proportion of GDP devoted to health increased by roughly 40 per cent in the two decades to 2012. It is plausible to assume that some common features explain such an increase. The rising cost of health technology and the increasing costs inevitably associated with ageing populations (Newhouse, 1992; Barbash & Glied, 2010) are major factors affecting demand for health services, such as inpatient and ambulatory care. Similarly, the growing contribution of chronic conditions (strongly associated

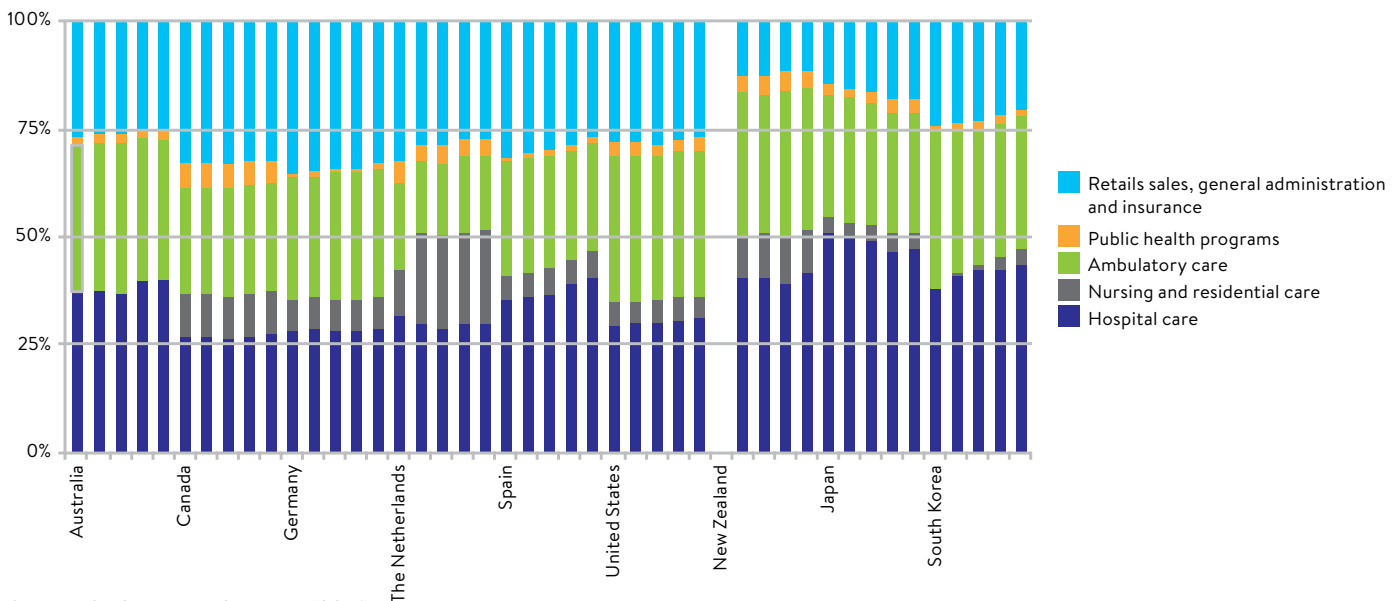
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with an older population) lifts demand for particular forms of care. Nevertheless, health expenditure also depends on how healthcare provision is planned, organised and delivered. Hence, it is important to analyse how total health expenditures have grown and how categories of health expenditure have evolved in different countries in response to changing demand. At the same time, we must look at whether health expenditure is concentrated on certain types of patients.

1.1.1 Hospital care expenditure

The OECD (2014) provides detailed information on national healthcare expenditure. Healthcare expenditures in hospitals include medical, diagnostic and treatment services that include physicians, nurses, pharmaceuticals and other health services for inpatients (OECD, 2014). The proportion of healthcare expenditure devoted to hospital care is higher than for nursing and residential care facilities or ambulatory care facilities in most countries (Figure 2). However, in Australia, the proportion of health expenditure devoted to hospital care increased from 38 per cent in 2003 to 40.4 per cent in 2011 (Figure 2), of the nine selected countries, only Spain spends a similar proportion (35.9% in 2003, 41% in 2011). In Canada, Germany and the USA, the proportion of healthcare expenditure allocated to hospital care, and its rate of increase, is much lower. In The Netherlands, the proportion of healthcare expenditure devoted to hospital care decreased from 33.3 per cent in 2003 to 31.5 per cent in 2011.



Source: OECD Health Statistics (2014).

1.1.2 Ambulatory care expenditure

Health expenditures in ambulatory care are the costs of healthcare provision to patients who do not require inpatient services and include the treatment of day-cases and the delivery of home care services. Most ambulatory care involves general practitioners providing healthcare to patients visiting their facilities (OECD, 2014). Australia and the USA spend the highest proportions on ambulatory care services, despite decreases from 34.7 per cent to 33.3 per cent in Australia and 35.0 per cent to 34.9 per cent in the USA over 2003–2011. The proportion of healthcare expenditure allocated to ambulatory care also decreased in Spain (from 26.9% in 2003 to 25.7% in 2011) and The Netherlands (from 21.7% in 2003 to 17.9% in 2011). In Canada and Germany, the proportion of ambulatory care expenditure increased slightly (26.1% and 28.7% cent in 2003, 26.8% and 29.9% in 2011, respectively).

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1.1.3 Nursing and residential care expenditure

Nursing and residential care facilities provide various forms of healthcare to resident patients, as well as social services in many cases (OECD, 2014). The proportion of healthcare spent on nursing and residential care increased from 0.4 to 3.4 per cent in South Korea, 5.2 to 6.1 per cent in Spain and 7.2 to 7.6 per cent in Germany over 2003–2011. Proportions increased by smaller amounts in Japan (3.3% to 3.8%) and New Zealand (9.5% to 9.6%). In the USA and Canada respectively, the proportion decreased from 5.8 and 10.5 per cent in 2003 to 5.6 and 10.2 per cent in 2011. The Netherlands witnessed the greatest change in the proportion spent on nursing and residential care, from 11.3 per cent in 2003 to 22.3 per cent in 2005 (maintained to 2011), but this was probably due to a change in expenditure reporting practice.

The way in which Australia reports health statistics to the OECD does not allow the same comparison over time. However, nursing and residential aged care related expenditure for Australia in 2011–12 was \$A8,939.9 million (AIHW, 2015), approximately 0.8 per cent of GDP.

1.1.4 Expenditure on public health programs

The OECD collects statistics on the value of public health programs delivered by both public and private providers (OECD, 2014). Australia spent only 1.6 per cent of total healthcare expenditure on public health programs in 2003, rising to 1.8 per cent in 2011. While Canada, The Netherlands and the USA spend a greater proportion of healthcare expenditure on public health programs, these decreased from 6.1, 5.1 and 3.1 per cent in 2003 to 5.2, 4.4 and 2.8 per cent in 2011 respectively. Public health program expenditure proportion is lowest in Spain and Germany, with both spending 0.9 per cent in 2003, decreasing to 0.8 per cent in Spain and 0.7 per cent in Germany in 2011.

1.1.5 Retail sales, general administration and insurance

For this component we added data from the OECD’s “retail sale and other providers of medical goods” and “services of healthcare administration” categories. The first category measures the value of medical goods sold directly to the general public for personal or household consumption or utilisation, including outpatient pharmaceutical treatments prescribed by general practitioners and purchased at pharmacies. The second category includes expenditures associated with the regulation of agencies that provide healthcare and the administrative cost of health policy and health insurance (OECD, 2014).

Retail sales, general administration and insurance expenses have decreased in every country, notably The Netherlands (from 33.9 per cent in 2003 to 28.4 per cent in 2011) and Spain (from 32 per cent in 2003 to 27.2 per cent in 2011).

1.1.6 The concentration of health expenditure on chronic care patients

Currently, in countries such as Australia, the majority of healthcare expenditure goes to chronic conditions such as cardiovascular diseases, mental disorders, and musculoskeletal diseases. The Australian Institute of Health and Welfare report, (2014), in Australia’s Health 2014, reports that the ten most expensive conditions (in descending order) are:

cardiovascular disease, oral health, mental disorders, musculoskeletal, injuries, neoplasms, respiratory, digestive system, genitourinary, and nervous system disorders. For most of these conditions, other than oral health, the highest costs are associated with hospital inpatient services, and also outpatient medical expenses, and the prescription of pharmaceuticals.

The “top three chronic diseases account for up to 18% of total health expenditure” (Dogget, 2015) that is: cardiovascular disease, mental disorders, and musculoskeletal conditions.

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1.2 Impact of informal care on healthcare expenditure

In section 1.1 we showed how health expenditure has increased over time in developed countries, as well as how it is concentrated in people with chronic health conditions. However, the data presented so far only refer to formal health expenditure (hospitals, specialists, ambulatory and primary care centres, nursing and residential care facilities), whereas the delivery of efficient and integrated healthcare specifically for people with chronic health conditions also requires considerable informal care, such as community and social care.

Formal care is usually provided by the state or health organisations (depending on the country or health system) and delivered by trained, licensed and qualified professionals in exchange for payment and entitlements. In contrast, informal care is often delivered by family, close relatives, friends or neighbours, who are not health professionals and largely untrained. No formal contracts are involved, and more often than not, informal caregivers receive no payment or entitlements (Triantafillou et al., 2010).

1.2.1 Role of informal caregivers

Informal caregivers are defined as “individuals providing aged care on a regular basis (often on an unpaid basis and without contract), for example, spouses/partners, family members, as well as neighbours or friends” (Productivity Commission, 2011). “Of those older Australians receiving assistance in the community, about 80 per cent receive it from informal carers” (Productivity Commission, 2011). In 2009, 2.6 million informal caregivers (12.2% of the population) were estimated to be providing healthcare to older and disabled individuals in Australia (ABS, 2011). Of these, roughly 750,000 were primary carers providing the majority of care to individuals with a profound or severely restricting disability. Access Economics (2010) estimated that in 2010 2.87 million Australians (13.1 per cent) were providing informal care.

Given the ageing of the Australian population and the increasing burden of chronic diseases, the role of and reliance on informal caregivers can be expected to increase. Informal caregivers fulfil an important role within the community that substitutes for more expensive formal healthcare options. However, the number of informal caregivers is expected to decline (Productivity Commission, 2011), and the “reduced supply of informal carers could impose substantial costs on the community care sector” (DoHA, 2012). This will further increase the burden of chronic conditions requiring formal care and hence overall healthcare expenditure.

1.2.2 Cost of informal care to the labour market

In 2010 informal care was estimated to have saved Australia AUD\$40 billion that would otherwise have been spent on formal care (Access Economics, 2010). This represents a saving of 3.2 per cent of GDP and 60 per cent of formal care expenditure.

Only a small proportion of informal caregivers are paid or supported by government subsidies (Triantafillou et al., 2010); instead, the caregiver bears the costs. A German study found that over half of all principal carers claimed that caring constituted a ‘large’ or a ‘considerable’ burden, with those caring for the more frail finding the burden greater (Casey, 2011).

Informal care provision also has an impact on the labour market through lost productivity, with informal carers either unable to participate in the labour market or participating at reduced levels (Access Economics, 2010). Access Economics (2010) estimated that in Australia in 2010, 129,900 carers were not employed in the official labour market because of their activities as informal caregivers, representing 1.1 per cent of the total Australian workforce, at an opportunity cost of AUD\$6.5 billion. Schofield et al. (2013) found that the chronic conditions that most lowered Australian informal caregivers’ participation in the labour market were back problems; arthritis and related disorders; diseases of the nervous system; and conditions originating in the perinatal period or congenital malformations, deformations and chromosomal abnormalities.

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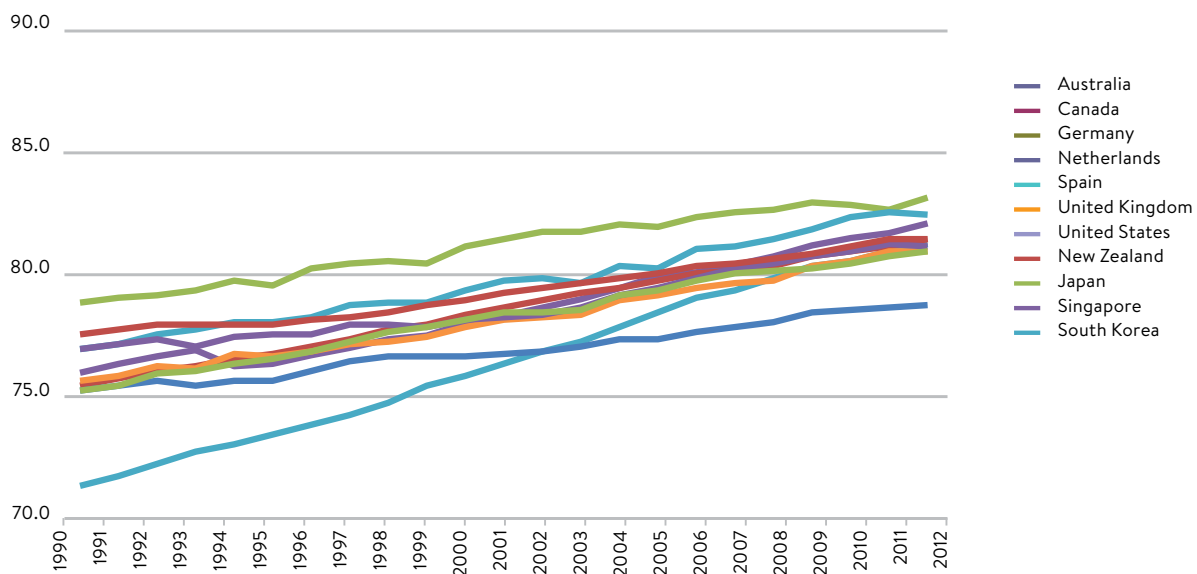
2. Drivers of healthcare expenditure

Health economists have identified the growing cost of health technologies, the ageing of populations, and the increasing contribution of chronic conditions to the burden of disease as the most important determinants of increasing health expenditure (Barbash & Glied, 2010; Newhouse, 1992). In this chapter we present detailed information about these drivers of health expenditure.

2.1 Ageing, life expectancy and health expenditure

In Australia, life expectancy increased from about 77 years in 1990 to 82 years in 2012 (Figure 3), and health expenditure for individuals aged 65 years or over is on average roughly four times greater than for those under the age of 65 (Productivity Commission, 2005). Tapper and Phillimore (2014) confirmed that health expenditure is not only much greater for older individuals, but the disparity in health expenditure (on acute care, community health services and pharmaceuticals) by age is increasing over time. As a consequence, the ageing of the population is an important consideration in health policy and planning.

FIGURE 3 Evolution of Life Expectancy 1990-2012.



Source: OECD Health Data 2014 and The World Bank (2015).

While it is widely accepted that health needs (and therefore health expenditure) increase with age (Newhouse, 1992; Van de Ven & Ellis, 2000), this relationship had not been explored in the Australian context until recently. It is now well established that as life expectancy increases, so too does the prevalence and burden of chronic disease. Prevalence rates of the most significant chronic conditions – diabetes, heart disease, stroke and vascular disease, arthritis, osteoporosis, and genitourinary system diseases – all increase steadily and significantly with age (AIHW, 2014). (Diabetes is a slight exception, increasing in prevalence between the 55–64 and 65–74 age groups but decreasing again for individuals older than 75.)

2.2 Impact of health technologies on health expenditure

Advances in health technologies have improved the health status of populations through better services and improved diagnosis (Cutler & McClellan, 1996; 2001a). Cutler and McClellan (2001b) suggest that, in general, the adoption of health innovations increases the productivity of health provision; there is also a significant benefit to longevity from the introduction of innovative pharmaceutical treatments (Litchenberg,

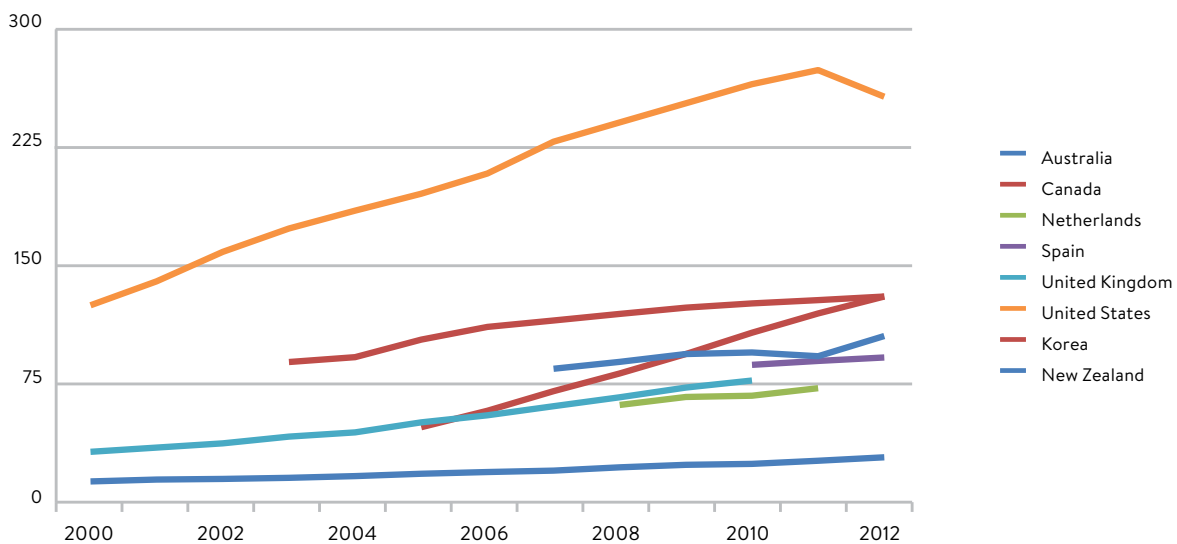
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2003). However, adopting new health technologies and therapies increases health expenditure; the cost of health technologies is the single largest determinant of the increase in health expenditure in developed countries (Newhouse, 1992; Barbash and Glied, 2010). Not only are health technologies costly to develop, these technologies often replace older, mostly cheaper technologies (a substitution effect) and increase demand for health services given their greater quality (a treatment effect) (Cutler & McClellan, 2001a; García-Goñi, 2006).

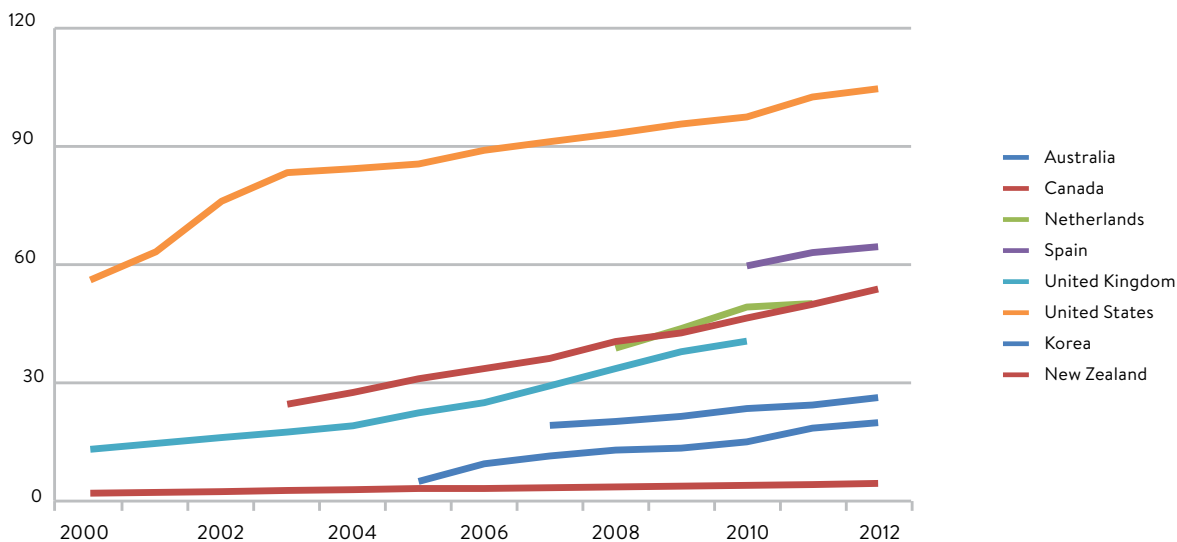
The rapid uptake of computed tomography (CT) and magnetic resonance imaging (MRI) demonstrates the steady increase in use of health technologies in Australia and comparable countries (Figures 4a, 4b). However, Australia spends relatively little on medical devices (Medical Technology Association of Australia, 2013). While Australia “ranked 13th for total health spending per capita and 15th for medical device spending per capita, Australia was ranked 54th when measuring medical device spending as a percentage of total health spending, indicating that spending on medical devices is a small percentage of total health expenditure” (Medical Technology Association of Australia, 2013).

FIGURE 4A CT exams per 1,000 population, 2000–2012



Source: OECD (2014).

FIGURE 4A CT exams per 1,000 population, 2000–2012



Source: OECD (2014).

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2.3 The chronic disease burden

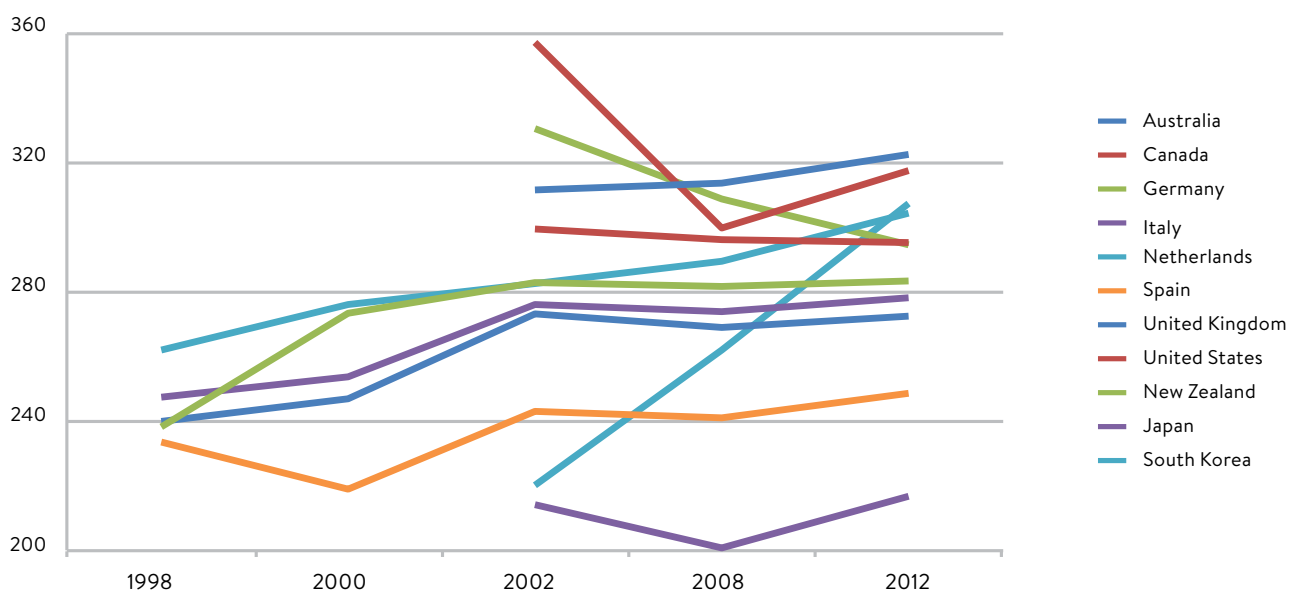
Another factor contributing to increasing health expenditure is the growing burden of mostly non-communicable chronic conditions (Mathers & Loncar, 2006; Samb et al., 2010). Chronic conditions are now the leading causes of morbidity and mortality in most developed economies, including Australia (Garcia-Armesto et al., 2010; AIHW, 2014).

Major chronic conditions include arthritis, musculoskeletal disorders, cancers, cardiovascular diseases, diabetes, asthma, chronic obstructive pulmonary disease, HIV/AIDS and mental disorders (such as depression, schizophrenia and dementia). Most of these chronic conditions share a common set of risk factors, to some extent attributed to lifestyle (in the case of some conditions more than in others) and therefore largely preventable; for example, “at least 80 per cent of premature heart disease, stroke and type 2 diabetes and 40 per cent of cancer could be prevented” (WHO, 2005).

According to *Australia’s Health 2014* (AIHW, 2014), coronary heart disease (CHD) was the leading underlying cause of death in Australia in 2011 (15% of all deaths) followed by cerebrovascular disease (8%), dementia (7%) and lung cancer (6%). The mortality rate due to chronic diseases has decreased, probably due to improved health services and technologies, although this can lead to increased morbidity as the population ages and individuals live longer with chronic conditions. CHD and cerebrovascular disease recorded the highest proportional decreases in mortality of any chronic conditions in recent decades (AIHW, 2014).

Cancer (malignant neoplasms) is another disease whose burden has been profoundly affected by improved health technology. Cancer incidence (cases per 1000 people per year) has increased in most countries, with Australia now having the highest incidence (Figure 5); this is plausibly related to health technology enabling earlier and more accurate diagnosis. Simultaneously, the number of deaths caused by cancer has steadily decreased (Figure 6).

FIGURE 5: Cancer (malignant neoplasm) incidence per 100,000 population, 1998–2012.

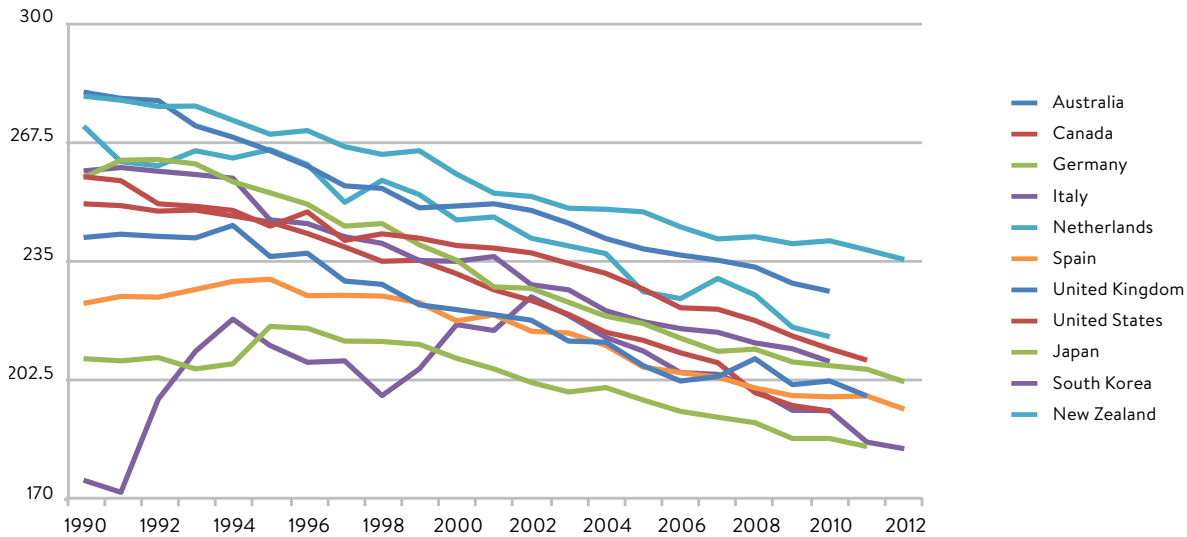


Source: OECD (2014).

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FIGURE 6: Deaths per 100,000 population due to cancer (malignant neoplasms), 1990–2010.



Source: OECD (2014).

Improvements in health technology - especially in diagnostic imaging - drive better and earlier diagnosis, increasing the prevalence of chronic conditions but decreasing associated mortality (Black & Welch, 1993). García-Goñi (2006) showed how the development of laser technology significantly increased the number of patients receiving cataract the procedures in a public hospital in Spain. The use of that technology reduced waiting times but increased patient demand, greatly improving their quality of life while increasing health expenditures. More recently, Thorpe and Philyaw (2012) showed how advancements in disease detection, treatment, and management are affecting the diagnosis of obesity - increasing obesity rates and leading to more healthcare spending on obesity-related chronic diseases.

2.4 The impact of chronic conditions on health expenditure

The burden of chronic conditions on health budgets and economies is increasing, and the need for a fundamental shift towards a healthcare system better able to prevent and manage patients with chronic conditions is increasingly acknowledged internationally and in Australia.

In the financial year 2000-01, Australia devoted \$34 billion to cardiovascular diseases, nervous system disorders, musculoskeletal conditions, injuries, respiratory diseases, mental disorders, oral health, neoplasms, and diabetes, accounting for 70 per cent of total health expenditure (NHPAC, 2006). The three most costly chronic conditions in Australia in that year were cardiovascular diseases (\$5.5 billion, 10.9% of total health expenditure), nervous system disorders (\$4.9 billion, 9.9%) and musculoskeletal disorders (\$4.6 billion, 9.2%) (NHPAC, 2006).

Australia's Health 2014 provides comparable information on how health expenditure is allocated to different chronic conditions in the financial year 2008-09. The three most costly chronic conditions in Australia between 2008 and 2009 were cardiovascular diseases (\$7.7 billion, 10.4% of total health expenditure), oral health (\$7.2 billion, 9.7%) and mental health disorders (\$6.4 billion, 8.6%) (AIHW, 2014). This analysis raises some questions, as pointed out by Dogget who considers it can be argued whether oral health should be included as a chronic condition, and that the AIHW report on Mental Health Services in Australia identifies total expenditure on mental health services in 2008-09 as \$5.8 billion. (Dogget, 2015).

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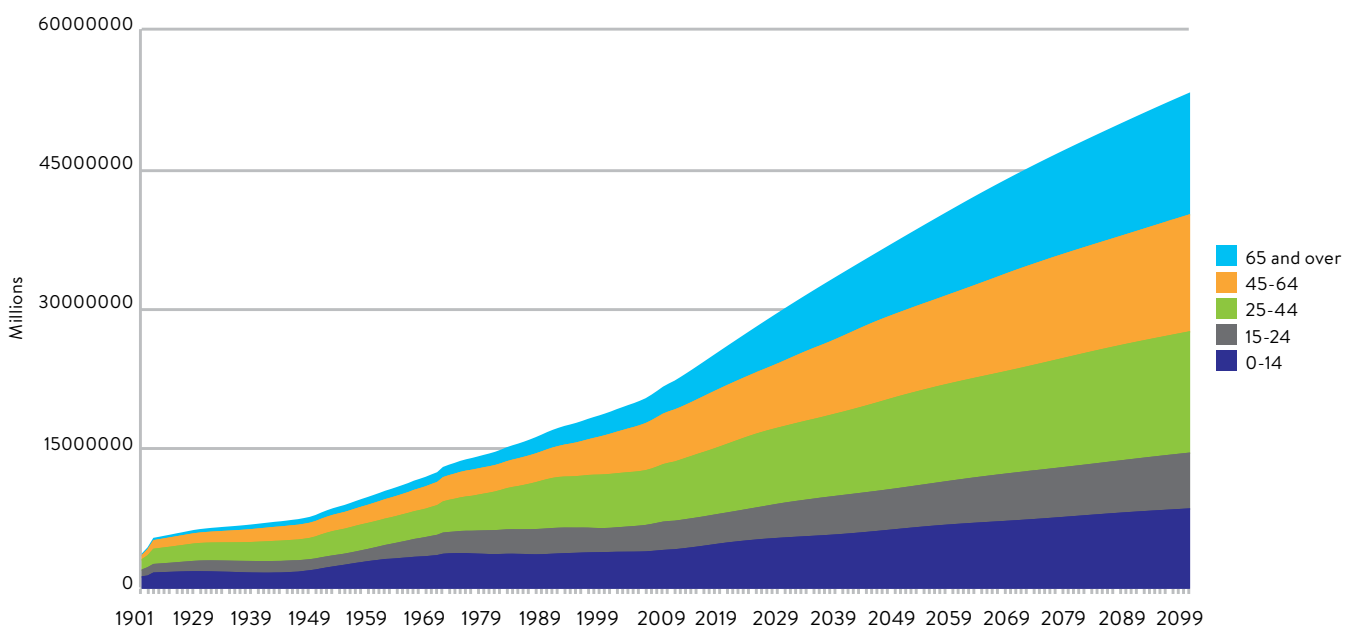
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2.4 Projections of health expenditure

The three main determinants of health expenditures (ageing, advances in health technology, and the burden of chronic diseases) are projected to increase in coming decades. Figure 7 shows the expected rise in the population until 2099 assuming medium-level growth (Australian Bureau of Statistics, 2013). Every age group is projected to increase significantly in size, and especially the 65 and older group. Median age is “projected to increase from 37.3 years in 30 June 2012 to between 38.6 years and 40.5 years in 2031, and between 41.0 years and 44.5 years in 2061” (Australian Bureau of Statistics, 2013). The ageing of the population will continue to inflate the prevalence and burden of chronic diseases, with the number of people with cancer expected to increase by 29 per cent between 2010 and 2020 to 150,000, while the number of people with dementia is expected to increase to 400,000 in 2020 and 900,000 by 2050 (Australian Health Report, 2014).

Vos et al. (2007) estimated the number of cases for a specific set of chronic conditions from 2003 to 2033. The number of new stroke cases per year is expected to increase by about 55 per cent, despite decreases in incidence (the proportions of Australian men and women suffering a stroke each year are expected to fall by 40.4% and 40.6% respectively). Similarly, it is expected that the number of new cases per year of ischaemic heart disease will increase by about 27 per cent, although incidence rates will decrease by about 47 per cent for men and 46 per cent for women. The number of dementia cases per year is projected to increase by about 200 per cent between 2003 and 2033, while incidence is expected to remain stable. Lung cancer diagnoses per year will increase by about 52 per cent by 2033, despite incidence halving for men and remaining stable for women. Perhaps the biggest looming concern is diabetes, with an expected rise from 1.073 million to 3.449 million cases by 2033 (a 221% increase) as a result of increases in incidence rates for both men and women (Vos et al., 2007).

FIGURE 7: Historical and projected Australian population, by age, 1901 to 2101.



Note: elaborated with ABS data (2013). Data until 2011 corresponds to the historical series. Data from 2012 is the projected population as of June 30 of each year. The projection follows the ABS assumption of medium-level growth.

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The effect of future health technology on health treatments and expenditures is difficult to predict. However, evidence suggests that technological change and other non-demographic factors – such as higher incomes and health sector wages growth – will be responsible for about 80 per cent of the increase in per-person health expenditures, with the remainder due to factors associated with ageing (Commonwealth of Australia, 2015). The 2015 Intergenerational Report (Commonwealth of Australia, 2015) shows that the Australian Government’s real health expenditure per person is projected to more than double over the next 40 years, increasing from 4.2 per cent of GDP in 2014–2015 to about 5.5 per cent in 2054–2055; state government expenditure will also rise. The largest component of the increase (about 25%) is expected to occur in Medicare services, from \$855 per person in 2014–15 to \$1,071 in 2027–28 (in today’s dollars). Pharmaceutical expenditures per person are expected to increase from \$420 in 2014–15 to \$474 in 2027–28. Australian Government funding to public hospitals has increased in recent years, from \$568 per person in 2007–08 to \$647 in 2014–15, and is expected to increase further to around \$680 in 2017–18 but plateau thereafter. Health expenditure per person on the private health insurance rebate is projected to remain fairly stable (Commonwealth of Australia, 2015).

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3. The case for change in Australian healthcare insurance funding

In chapters 1 and 2 we showed how health expenditure is increasing internationally, described its main determinants (ageing, the cost of technology, and the burden of disease due to chronic conditions), and explained that those determinants are expected to persist and maintain the upward trend in expenditure over coming decades. Like any other good or service, health expenditure has an opportunity cost: the more that is spent on health, the less that can be spent on other goods. Containment of health costs has been a major policy issue in Australia for some time. In this chapter we briefly describe how comparable international health systems have responded to increasing health expenditure and rising chronic health care need and look at contemporary models of funding and supply of chronic care services. Finally, we describe the Australian health system, its specific characteristics and main problems, and make the case for Australia to move to a blended health insurance funding model in order to better prevent, respond to and improve the care of, chronic health conditions.

3.1 Overview of international health systems and funding models

A healthcare system is described by the way in which healthcare planning, provision and financing are organised. The main goals of a health system should be to meet the health needs of the population through the planning and provision of prevention and management services in an equitable and sustainable manner (WHO, 2000). Each country's priorities differ, as do the systems employed to address them and to meet population needs.

While health systems vary greatly, they can be broadly categorised based on the public/private nature of providers and financers into three main approaches: national health systems, social health insurance systems, and private health systems.

3.1.1 National health systems

A range of Western economies – including Australia, the UK, Canada, New Zealand and Spain – have national health systems that provide universal access to healthcare, funded through general taxation. Service provision tends to be predominantly public, although private providers and public-private partnerships also exist. Despite public funding, in many national health systems the consumer must pay out-of-pocket expenses and/or co-payments.

The UK's National Health System (NHS) provides universal access to healthcare, with a range of economic incentives aimed at general practitioners (GPs). These incentives seek to encourage the efficient provision of services with the inclusion of risk adjustment and pay for performance. Canada's national health system aims to integrate care and efficiency through public provision. Canada has included some blended payments for primary care doctors, taking into account incentives for location in rural areas.

New Zealand has a predominantly publicly funded, universal coverage health system with services provided by public, private and nongovernmental sectors (WHO Health Systems in Transition, 2014; New Zealand Health Systems Review).

The Spanish NHS is also publicly funded through general taxes (excluding civil servants' mutual funds) and mostly publicly provided; it covers all residents independent of their ability to pay. The Spanish government provides taxation-derived funding to regions on the basis of population size and characteristics, with adjustments to address regional inequalities.

Australia's national health system is relatively complex. Federal and state governments fund universal access to hospital and primary medical care and some primary allied healthcare, and services are provided by public,

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not-for-profit and private providers. It is largely financed through taxes but is supplemented by co-payments and out-of-pocket payments. The Australian Government is primarily responsible for the funding of health services, through the medical benefits scheme (MBS) for private provider primary and specialist medical services and the pharmaceutical benefits scheme (PBS) for subsidised provision of prescribed pharmaceuticals, and through direct payments to State and Territory governments for the provision of public hospital services. About half of all adult Australian residents have private health insurance, providing reimbursement for health services provided by independent medical practitioners, private hospital care (whether provided in private or public hospitals), pathology services and pharmacies (Private Health Insurance Administration Council, 2013). This mix of public and private funding and providers makes the Australian health system hybrid in nature. The AIHW (2014) describes the Australian health system as “a multi-faceted web of public and private providers, settings, participants and supporting mechanisms”. For example, public hospitals are financed by the state, territory and Australian governments, but are managed by the states and territories, while private hospitals are owned and managed by the private sector (AIHW, 2014).

Ageing populations, with a concomitant growing population burden of chronic disease, have become a major challenge to national health systems due to increased demand for health services. Patients with chronic conditions require services not fully covered by national health systems, while at the population level, services promoting prevention are required.

3.1.2 Social health insurance systems

The Netherlands, Germany, Japan and South Korea are countries with social health insurance (SHI) systems. Like national health systems, SHI systems are characterised by universal access to healthcare and public financing. However, SHI systems are financed through social contributions rather than being funded through general taxation, and services are provided privately.

Provision of care models differ across SHI systems, although competitive markets for insurance and service provision are common features. While enrolment in health insurance may be mandatory, these features enable individuals the freedom to choose their insurer, while giving insurers the freedom to contract with different health service providers.

Perhaps the most sophisticated example of a regulated, competitive market for healthcare provision is The Netherlands. The Dutch government collects social contributions prospectively and reimburses private insurers for their healthcare expenditure after adjusting for risk. Prospective payments mean the government has been able to introduce efficiency incentives for health insurers and their providers by passing on any additional savings to these organisations. However, these incentives can encourage insurers and service providers to select consumers who only require low-cost, infrequent healthcare, while consumers requiring chronic and/or complex care miss out. The use of a bundled payment system has been promoted for hospitals in an attempt to avoid such risk selection. In Germany, a statutory long-term care program has been implemented for this reason (Deutsche Sozialversicherung, 2015). Eighty-six per cent of total health expenditure in The Netherlands is met from social contributions, and the remainder from out-of-pocket expenses (6%) and co-payments from individuals to providers. The proportion of out-of-pocket expenses borne by healthcare consumers in The Netherlands is less than in countries with national health systems (OECD Health Statistics, 2015).

In Japan, workers and employers finance a universal public health insurance system mostly through social contributions, with some co-payments. Although there are both public and private providers, most primary care doctors and specialists are private practitioners. Primary care doctors and specialists are mostly reimbursed through fees for services, and hospitals within the public system are reimbursed through a case-

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mix system based on activity (Matsuda, 2014).

South Korea has a universal and mandatory national health insurance system, financed mostly through workers' and employers' social contributions. As in other countries, the South Korean health system includes subsidies from the government and out-of-pocket payments. Health provision is mostly private, from primary care to ambulatory and hospital care. However, the government is responsible for the implementation of public health programs (Chun et al., 2009).

In countries with SHI systems, the burden of chronic diseases has created an environment in which insurers and service providers seeking allocative efficiency are faced with a population requiring long-term, often complex care from a range of providers such as hospitals, primary care and community care organisations. The consequence of this is risk selection, which governments and health system administrators must work to address.

3.1.3 Other Health systems

Some countries' health systems cannot be defined as either national health systems or SHI systems. The USA has a private health system. Its financing is mostly through premiums paid by individuals or employers, and its provision of health services is private. Enrolment in health insurance has traditionally been voluntary, although most often determined by income. Alongside the private health insurance market, the USA has two main public programs: Medicare for people aged 65 or older, and Medicaid for low-income individuals and families and people with disabilities. Coverage has recently been extended through the Affordable Care Act; and the Children's Health Insurance Program (CHIP), closely related to Medicaid, now provides low-cost health coverage to children in families that earn too much money to qualify for Medicaid ([US Department of Health and Human Services, 2015](#)).

Singapore has a mix of public and private health service providers; the government is responsible for the planning, provision and regulation of the health system (Liu & Haseltine, 2015). The government promotes competition among health providers, and individuals are free to choose providers using information about their bills (Haseltine, 2013). Financing is based on private funds that individuals are obliged to save in Medisave or savings accounts. Together with the substantial contribution of individuals to health care, the government emphasises the importance of health promotion. Singapore's total health expenditure was only 4.65 per cent of GDP in 2012 (World Bank, 2015).

Although health systems in the USA and in Singapore are very different, the trend in the burden of disease towards chronic conditions is of concern in both countries. In the USA, the search for efficiency in the private health insurance market has emphasised the problem of risk selection, as in social health insurance system countries. In Singapore, the response has been to increase emphasis on prevention and public health promotion with individual responsibility.

3.2 Funding a chronic care system amidst increasing health expenditure

While patients with acute conditions require short-term treatment for severe injuries or urgent medical conditions, patients with chronic conditions usually experience debilitating illness over a long period of time, requiring long-term and ongoing treatment and management. Despite current health expenditure now being concentrated on people with chronic health conditions, most health systems are still organised around acute conditions. As a consequence, healthcare planning and provision no longer match the needs and preferences of the population, many of whom are at high risk of or already have chronic conditions, and often suffer multi-morbidities (Jadad et al., 2010). In an effort to meet the needs of populations burdened by chronic diseases, new models of healthcare are being developed and trialled in both developed health systems and emerging health systems. Two prominent examples are the Chronic Care Model and the Kaiser Permanente Pyramid Model.

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3.2.1 The Chronic Care Model

The Chronic Care Model (CCM) was developed by the Robert Wood Johnson Foundation in the USA to identify and demonstrate the necessary components for improving care in health systems at the community, organisation, practice and patient levels. The model was designed and established through the Improving Chronic Illness Care program of The Robert Wood Johnson Foundation in response to the burden of chronic illness and disease on the American population. One quarter of adults in the USA report multiple chronic conditions and almost half the population report at least one condition. The CCM was set up to show that the healthcare system needed to move from being essentially reactive – responding mainly when a person is ill – to being proactive and focused on keeping people as healthy as possible through a focus on high-quality care, high levels of satisfaction and improved health outcomes for patients with chronic conditions (Wagner et al., 1996). Lessons from the CCM suggest six key elements are simultaneously required to provide optimal care for people with chronic health conditions: delivery system redesign; patient self-management support; decision support; clinical information systems; community linkages; and health system organisation (Bengoa, 2008; Bodenheimer et al., 2002; Wagner et al., 1996). The CCM also demonstrates the need for an integrated model of primary care, as opposed to the fragmentation commonly experienced under traditional models of care. The model has been applied in several Australian settings, as for instance, in the promotion of prevention of cardiovascular disease in primary care (Volker et al., 2014).

3.2.2 The Kaiser Permanente Pyramid Model

The Kaiser Permanente Pyramid Model (KPPM) is designed to address different levels of health needs required by individuals with different characteristics. KPPM adapts health interventions to the different population strata, from health promotion to end-of-life care, taking into account level of risk and health need, for healthy individuals through to multi-morbidity patients (García-Goñi et al., 2012). The KPPM places great importance on health promotion, prevention, community intervention and self-management, while emphasising integration of care between hospitals, formal and informal care providers, and other health providers, supported by purposeful information system technology, in order to reduce unnecessary hospital admissions and use of specialist resources (Panattoni et al., 2011).

3.2.3 Other practical examples of care coordination

In the UK, five sites applying coordinated care principles to their service model share a holistic focus on patients and carers. They aim to improve or sustain functional independence and resilience in addition to providing appropriate clinical treatment and care, community engagement, effective multi-disciplinary teams and communication, and locally focused service programs with strong leadership and support. Facilitating factors included a political narrative that has supported a shift to person-centred care, local leadership and commitment, a clearly defined, shared vision of better patient care, capacity to react flexibly to patients' changing needs, and investment in supporting carers and 'low-level' community support services (Goodwin et al., 2013).

Other examples of coordinated care strategies are those implemented by Accountable Care Organizations (ACO) and Patient-Centered Medical Homes in the USA following the Affordable Care Act of 2010. Hempstead et al. (2014) describe the huge fragmentation of care provision in the USA. Recent years have seen many initiatives to address this. Larson et al. (2012) examined four provider organisations participating in the Brookings-Dartmouth ACO and identified robust health information technology, strong care management, measurement of healthcare performance, and effective physician engagement in the program as the main facilitators of improved coordination of care.

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3.2.4 Designing a chronic care system

In order to design health systems able to better prevent and manage chronic diseases, key characteristics of high-performing chronic care systems must be identified. Ham (2010) proposed a set of ten key characteristics that policymakers must recognise in order to improve the quality of care for people with chronic health conditions: ensuring universal coverage; provision of care that is free at the point of use; delivery system focused on the prevention of ill health; priority given to patients to self-manage their conditions with support from carers and families; priority to primary healthcare; population management through the use of tools to stratify people with chronic diseases according to their risk and offering support commensurate with this risk; integration of care to enable primary healthcare teams to access specialist advice and support when needed; need to exploit the potential benefits of information technology in improving chronic care; care effectively coordinated; and the link of the previous nine characteristics into a coherent whole as part of a strategic approach to change (Ham, 2010).

The CCM, KPPM, the coordinated care experiences in the UK and USA, and Ham's work point to the need for health systems that offer holistic, integrated care from healthcare and social care providers, both formal and informal, in a universal and sustainable system. At present, none of the healthcare systems described above can be described as incorporating all components of integrated care.

3.3 The Australian health system

The Australian health system is mostly financed by public sources although with a substantial mix of both public and private insurance arrangements.

Almost 70 per cent of total health expenditures were publicly funded (42.4% by the Australian government, 27.3% by state and territory governments) in 2011–2012. The other sources of funding were the patients (17%), private health insurers (8%), and accident compensation schemes (5%) (AIHW, 2014). The system includes Medicare, a universal public health insurance scheme introduced in 1984, whose coverage includes the MBS and PBS.

The Australian arrangements have very specific features. There is a huge presence of supplementary private health insurance (PHI). The second is the high degree of fragmentation of healthcare provision. We examine these factors in turn below.

3.3.1 Duplication of health insurance

The then Private Health Insurance Administration Council (PHIAC) in Australia reported that “as at 31 March 2013, 10.8 million people in Australia (or 46.9 per cent of the population) held hospital cover and 12.6 million people in Australia (or 54.7 per cent of the population) held general cover” (The Private Health Insurance Administration Council (2013)). General coverage includes services not covered by public health funding – Medicare – commonly dental, optical, physiotherapy, chiropractic and other health services provided outside the hospital setting and services. As a consequence, private health insurance can be considered as supplementary insurance and, as described by PHIAC, in “an aggregate sense, private health insurers cover about 50 per cent of the total cost of general treatments, with consumers contributing the other 50 per cent (The Private Health Insurance Administration Council, 2013). Differently, hospital coverage includes (depending on the insurance scheme purchased) the cost incurred by the insured at private hospitals or at a public hospital as a private patient. Most of those would be also included under Medicare. Most of the cost when there is any shortfall in cover, is paid as an out-of-pocket payment by consumers.

The role of private health insurance has steadily increased in the Australian health financing market since

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1997, when the then federal government began to give explicit subsidies to the competitive PHI market to increase the affordability, stability and attractiveness of PHI, and to decrease the pressure on the public system by letting individuals choose different levels of coverage from private schemes (Department of Health and Aged Care, 2000). However, the subsidies do not reduce coverage under the public scheme, and as a consequence many individuals pay for services included in both public and private insurance schemes, which results in inefficiencies related to “over-insurance, high-transaction costs, cost-shifting, perverse incentives with respect to waiting times, and adverse selection” (Paolucci et al., 2011). Simultaneously, adverse selection seems to have increased with the promotion of private health insurance schemes, as there has been greater incentive for high-risk individuals to buy insurance due to the utilisation of community rating and open enrolment.

3.3.2 Fragmentation of care provision and integrated care experiences

The fragmentation of care confounds users of Australian health care. Primary care is almost exclusively provided by independent and private professionals and is not included in the private health insurance schemes. Private insurance policies provide cover for hospital and specialist care, while primary care is mostly financed by publicly funded rebates to the practitioner approved by Medicare for “general practitioners, nurse practitioners, midwives, practice nurses and allied health providers” (Department of Health, 2014¹) with additional out of pocket payments by insured patients making up 17.3% of total health expenditure in 2011-2012. (AIHW 2013. *Health expenditure Australia 2011-12*.) Hospital and specialist care are provided by private or public institutions and are included in the public insurance scheme (MBS), but are also included under private health insurance contracts. Endeavours to reduce the fragmentation of care arising from the mix of health funding has resulted in a number of implemented programs with the aim of enhancing the role of primary care and supporting more efficient coordination of primary, specialist and hospital care.

In a financing arrangement for older people requiring additional health and other care with activities of daily living, including those with dementia, publicly funded subsidies are provided through assessed needs (Public funding provides subsidies to finance residential care or non-residential care services based on need through national government funding with some state based funding in the same or similar programs). (Commonwealth Home Support Program, Home and Community Care program in Victoria and WA, Home Care Packages Programme, Home Care Packages Programme). Co-payments for all services are based on assessed capacity to pay. (AIHW 2015) (<http://www.aihw.gov.au/copyright>)

An estimated 77 per cent of the Australian population has at least one chronic condition (AIHW, 2006), and health policymakers are responding. Australia has two main chronic health care programs: the Practice Incentive Program (PIP) and the Chronic Disease Management program (CDM) (AIPC, 2008). The PIP was launched in 1998 and includes economic incentives to GPs providing the quality of care proposed by the Royal Australian College of General Practitioners’ Standards for General Practices and for the provision of diabetes or asthma chronic disease management activities (Australian Institute for Primary Care, 2008). The CDM, launched in 2005, focuses on patients with chronic conditions and complex needs (Australian Institute for Primary Care, 2008) and includes a GP Management Plan together with multidisciplinary Team Care Arrangements specifically for complex patients. In 2006, Australia also implemented the GP Mental Health Care Treatment Plan to “encourage early intervention, assessment and management of patients with mental disorders by GPs, in conjunction with psychiatrists, psychologists and other allied health professionals” (AIPC, 2008). With respect to the organisation of health provision, the National Chronic Disease Strategy adopted the Kaiser Permanente Pyramid model (NHPAC, 2006).

Australian researchers have studied integrated health interventions for people with chronic health conditions. For example, Walters et al. (2013) examined the effects of telephone health mentoring on self-management ability, quality of life and the development of psychological morbidity for chronic obstructive pulmonary

¹ Information available at The Department of Health webpage: <http://www.hhs.gov/healthcare/facts/timeline/timeline-text.html>

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disorder (COPD) patients. They found that patients receiving regular phone contact increased their self-management capacities but not their quality of life. Zwar et al. (2012) studied the effect of a nurse-GP partnership intervention for COPD patients; although the patients' disease-related quality of life did not improve, their knowledge of COPD and their quality of care did. Hamar et al. (2015) found a similarly positive outcome of a chronic disease management program (My Health Guardian) for individuals with heart disease or diabetes that provided individualised support through telephonic nurse outreach and online tools for self-management, behaviour change and well-being. Four years after the implementation of the program hospital utilisation and costs had significantly decreased, and this positive effect was continuing.

Various regional and local initiatives have been implemented to improve prevention and service provision to people with chronic health conditions. The Northern Territory Preventable Chronic Disease Strategy (PCDS) started in 1997, using an integrated approach to take account of renal disease, diabetes, hypertension and ischaemic heart disease, since they have common underlying factors (Weeramanthri et al., 2003). The strategy was considered to have provided "much more detailed chronic disease guidelines, a focus on systems of care, expanded training opportunities with a special emphasis on the ethics of the interaction with clients, and more standardised health centre practices and dedicated staff support" (Weeramanthri et al., 2003).

Davies et al. (2009) investigated whether the coordination of service provision improved in Australia in the previous decade due to the development of voluntary networks or local initiatives. They found that more reform was needed because primary healthcare in Australia was still highly fragmented. More recently, Wilcox (2014) focused on the role of prevention in the provision of care to people with chronic health conditions. The author pointed out that despite the National Chronic Disease Strategy's commitment to the prevention and treatment of chronic diseases, it is not currently operational and there is no clear pathway for action.

The AIHW (2008) analysed health system performance in rural and remote areas, and found that access to health services is not equal to that in large cities. Initiatives to improve access to primary care in different geographical regions include the General Practice Rural Incentives Program, providing support to medical practitioners to provide healthcare in rural and remote areas of Australia (Rural and Regional Health Australia, 2015). A mixed funding model has been implemented, mostly based on fee for service in the private sector and salaries in the public sector (Department of Health, 2015). Blended payments are being considered together with other measures to "maximise the emerging value of new and evolving technologies, and the potential for rapid expansion of remote or virtual consultation" (Department of Health, 2015).

In summary, the Australian health system is highly fragmented, remedies are piecemeal, and the problems arising from this fragmentation can be expected to increase with the increasing burden of disease towards chronic conditions.

3.3.3 Financing healthcare provision

The duplication of health insurance and the fragmentation of care generate inefficiencies in the allocation of resources. Figure 2 (Chapter 1) showed how hospitals are the most important providers in terms of relative health expenditures in many countries, including Australia. *Australia's Health 2014* (AIHW, 2014) shows that 40.4 per cent of total health expenditures involve hospital care, most of it from public hospitals. The financing of public hospital care in Australia mostly stems from state and territory government funds, with a substantial fraction funded by the federal government. Private hospitals are mostly financed by private funds, with some contributions from the federal government and a very small proportion from the states and territories. After hospital care, the most significant health expenditure is primary care (38.2% of total expenditure), including community and public health, dental services, medications, non-referred medical services, and other health services. In respect of dental services, medication and other health practitioners, most funding is private, and

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the remainder comes from the Australian Government. National public funds are the most important source of funding for non-referred medical services; in contrast, community and public health is mostly financed by state and territory governments. Finally, 21.3 per cent of total health expenditures are devoted to other recurrent health providers, the most important being referred medical services, administration and research (mostly financed by the Australian Government), while the remainder of health expenditures, devoted to other health goods and services, are mostly privately funded.

3.4 The case for reforming Australian healthcare funding

A realignment of funding arrangements for Australian healthcare is required to match health service capacity to the future health needs of the population. Political discussion in Australia in recent years has focused on reform of health arrangements, indicating recognition of the need for significant structural change in order for current and future health service demand and supply to be better balanced and of the growing burden of chronic illness and healthcare on rising demand and expenditure.

Discussion of health reform in Australia has occurred from many different angles. Duplication of effort in long-term health and social care has been a focus of such discussion and policy actions in recent years. Historically, responsibility for the financing and design of long-term care has been divided between the federal government, for individuals aged 65 or older, and the states and territories, for individuals younger than 65. Recent structural reforms have consolidated funding and service delivery arrangements for both younger people with long term care needs, and for older people, through the National Disability Agreement and the Commonwealth Home Support Program, providing for shared funding of community based long-term care with service delivery by states and territories. (Department of Social Services, 2015). In 2013, the Productivity Commission (2013) analysed the challenge of the ageing population and the consequential increasing need for chronic care and social care and considered options for financing, organising and providing long-term care, taking into account the increasing demand of long-term care workers, the rate of temporary jobs in this market, the high risk of poverty and the role of informal caregivers (Productivity Commission, 2013). The need for and costs of long-term care also present financial risks for individuals. (Paolucci et al., 2015). These considerations are relevant to the issues arising in healthcare funding.

Removing duplication in the health system that leads to inefficient health expenditure and behaviour has been recognised as a priority. The federal Department of Health has committed to identifying and removing any unnecessary regulation (Department of Health, 2015). The Productivity Commission (2015) has proposed efficiency gains that could take place without changing existing institutional and funding structures in the short run, although the Commissions said that other non-immediate reforms may also be required in the search for allocation and dynamic efficiency.

The Commission raised concerns over increasing health expenditure, because “the community will need to consider choices such as increased taxes, greater rationing of age-related services, cuts to other government spending, and/or requirements for larger contributions from service users”. One of the Commission’s proposals was to improve the use of health technology assessment by reducing duplication and fragmentation, and combining the Australian government’s assessments with those of the states and territories. Clinical practice efficiency and effectiveness improvements were recommended through establishment of “expert panels of clinicians to assess and endorse guidelines, and to advise on dissemination, implementation and review”. The Commission recommended improving the use of health data and electronic records for different agents in the market so as to promote the efficient use of information and transparency in health insurance, as well as the removal of restrictions in the pharmacy market and reductions in cost of the PBS.

The Productivity Commission also considered the role of the private health insurance market, preventive health, the study of different provider payment models and the financing of the system. These are highly

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relevant to the issues canvassed in this report. A central objective of the redevelopment of health funding arrangements in order to better prevent and manage chronic conditions is to enable the provision of the most efficient and effective care of these conditions. That would lead to contained demand pressures on higher-cost inpatient care through early intervention and community-based management of chronic conditions and provide for improved health and illness prevention services. (Australian Healthcare and Hospitals Association, 2014).

The National Commission of Audit (2014a, 2014b) has also contributed to the discussion on the health reform. It argued that “more deregulated and competitive markets, with appropriate safeguards, have the greatest potential to improve the sector’s competitiveness and productivity (National Commission of Audit, 2014a), and proposed a two-stage reform process. The first stage would include some implementation of feasible short-term policies and the necessary foundations for other structural reforms; the second stage would involve a restructure of the health system.

A framework for reforming funding arrangements could consider: policy interventions aimed at restraining expenditure; policies aimed at improving the efficiency of expenditure; and policies aimed at more fundamentally changing the incentives for users, providers and governments. The Minister for Health should take this forward. These reforms are not just about reducing costs. They also aim to increase efficiency, provide consumers with more power in selecting who arranges their health services, provide better quality care for those with chronic conditions and build a fairer health system for all Australians. (National Commission of Audit, 2014a)

Some of the interventions would be designed to improve the effectiveness of the private health insurance market. Expanded plans would cover “all services provided by Medicare and public hospitals and would have to pay for all healthcare expenses of the insured, including the cost of treatment in a public hospital”. At the same time, higher income individuals should take more responsibility for their health cost, and would not have access to the Private Health Insurance Rebate (National Commission of Audit, 2014a).

Other areas of reform focus are those of the health workforce, the model of delivery of care, the promotion of preventive interventions, and financial and regulatory incentives (Productivity Commission, 2013).

In particular, health workforce is a major component of health expenditure and investment in health outcomes in the population, (Health Workforce Australia (HWA) 2014a). HWA, during its relatively brief existence, showed clearly that the coordination and planning of the education and training of health professionals, medical and nursing practitioners in particular, needs to be calibrated in parallel with projected population profiles and health status. It also showed that the present arrangements in Australia have delivered undersupply and oversupply in these workforces producing disequilibrium in the market and contributing to poor health service capacity in significant areas, particularly chronic health care.

3.5 A blended funding health insurance model that includes chronic care

Our report contributes to an open discussion on health reform. Although there are many perspectives to take into account, ours is in principle aligned with that of the National Commission of Audit (2014a, 2014b). The key issue is not to control or reduce health expenditures but to provide a framework for a sustainable health insurance system with universal care, with a supply of health services adequate to meet the demand. Therefore, it is important to tackle the major issues of the duplication involved in private health insurance and the fragmentation of care. Our specific contribution is a special focus on health provision and health insurance for people with chronic health conditions. We focus on the funding of such a system, considering the financial incentives of health insurers, health providers and covered individuals.

We propose that Australia would obtain improved healthcare and improved population health outcomes through the introduction of a financially sustainable blended health insurance funding model, providing universal and integrated care coverage to individuals based on need, in which chronic care becomes a focus

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of the system. Such a model would have three main components:

- **Demand** – every individual would have freedom to choose a health fund (health insurer), informed by accurate and transparent information about the services provided and their quality.
- **Supply** – health funders (insurers) would have the freedom to contract different providers, enabling competition while also being able to promote and incentivise integration of health and social care among contracted service providers. Quality of healthcare provision would be regulated and measured, with information made transparent and accessible. Service providers would receive risk-adjusted capitation payments, promoting efficiency in service provision while avoiding risk selection and other market failures resulting from information asymmetry. This would be supplemented by incentives aimed at promoting efficiency and quality, encouraging the use of home care when appropriate.
- **Equity** – health insurance and funding must promote equity, be universal, financially sustainable, and deliver health infrastructure and quality of care for all individuals regardless of geographical location or socio-demographic diversity.

3.6 Summary

Many countries are re-developing health funding and service arrangements in response to the challenge of chronicity in their populations. This chapter has looked at some of the leading models focused on healthcare provision to people with chronic health conditions such as the CCM and the KPPM, other international experiences of healthcare coordination, and the set of key characteristics that have been identified as necessary for a health system and for healthcare provision to people with chronic health conditions. In Australia, the duplication of insurance and the fragmentation of care is exacerbated by the growing burden of chronic diseases. Increasingly, these issues are being reviewed and by national authorities such as the Productivity Commission or the National Commission of Audit. It is evident that Australia needs a comprehensive overhaul of funding arrangements in health care, and we consider that this should be based on a financially sustainable blended health insurance model with chronic care a central focus of these arrangements. Chapter 4 looks at the lessons for Australia in the international experience and evidence in health financing through an insurance framework.

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4. A typology of healthcare systems and funding models focused on chronicity

In this chapter we examine the international state of the art in transitioning health funding and insurance models into chronic care systems. We selected the following countries as examples of each type of health system: the UK, Canada, New Zealand and Spain (overseas national health systems – section 4.1), The Netherlands, Germany, Japan and South Korea (Social Health Insurance systems – section 4.2), and Singapore and the USA (high demand cost share systems – section 4.3). Section 4.4 contains a summary of the lessons learned from international experience that are of especial interest for Australia.

Because incentives in the provision of health services is a key issue in the international experience, we include in Annex 1 an explanation of the reimbursement methods – from payers to health providers – in the 10 national systems.

4.1 National health systems

As noted earlier, there are a range of national health systems (that have largely public funding and service provision. In this section we outline how four leading national health systems – those of the UK, Canada, New Zealand, and Spain – are financed and how those countries are responding to the challenge of increasing chronicity in their health of their populations.

4.1.1 United Kingdom

Funding and coverage

The UK's NHS is mainly financed through general taxation. General taxation is the source of about 76 per cent of total health expenditures and an additional 18 per cent stems from National Insurance Contributions (Boyle, 2011). Although there is a slightly different version of the NHS in each of the four countries within the UK (England, Scotland, Wales and Northern Ireland), we will mostly refer to the NHS in England, accounting for about 84% of the total population in the UK (Boyle, 2011). The NHS includes financing for social services, including home care and residential care, but these are partly financed through local taxation and not by general taxation.

Social care is financed through local taxes because they are also provided by local authority social service departments. Most social care services (but not nursing costs and nursing homes) are subject to means-tested user charges (Boyle, 2011). The transition towards chronic conditions in, and the ageing of, the population has increased the use of residential and nursing home care while there has been a decrease in the length of stay of hospital inpatients. As a consequence, in recent decades there has been a shift from free services at the point of care (as hospital inpatients) to services that are means-tested (House of Commons Select Committee on Health, 2005), which has raised concerns about the equity of the NHS.

Allocation of resources and provision

In all countries with a national health system, the way in which public funds are allocated to different providers determines incentives for efficiency. In England, about 80 per cent of the NHS budget is allocated by the Department of Health through Primary Care Trusts (PCTs). Those entities are responsible for health planning and provision for their geographically defined populations. The Department of Health assigns the budget for the PCTs following a weighted capitation formula which takes into account expectations of need for different types of health services: hospital and community health services, pharmaceutical prescriptions, primary medical services, and emergency ambulances (Boyle, 2011). The PCT can use efficiency incentives in the reimbursement to providers, such as a Diagnostic Related Group (DRG)-like activity-based funding system for acute hospital services.

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GPs are the first contact for anyone seeking health advice or treatment, and are central to primary care provision. GPs determine patients' access to specialist or hospital care, and are in charge of health promotion and disease prevention (Boyle, 2011). Most GPs are self-employed and most GP practices contract with PCTs to provide primary care with NHS funds. Although 18 per cent of GPs in England receive a salary, most (71%) are paid under the Quality and Outcomes Framework, taking into account and promoting aspects of good practice such as disease management or the right prescription. Individuals can choose their GP, and GP practices are limited in the ways they can refuse to treat an individual (General Practitioners Committee, 2004). The system promotes equity in access to GP services in all geographical areas (Boyle, 2011), including giving more resources to PCTs in deprived areas to contract alternative providers.

Recent experiences in funding and organising integrated care

In 2004 the Quality and Outcomes Framework was released in England. It promotes the use of preventive measures to improve the chronic disease management of selected patients. This program includes economic incentives for GPs if they achieve certain results related to their clinical practice: managing some of the most common chronic diseases, implementing preventative measures, providing child healthcare and maternity services, or avoiding emergency admissions to hospital (Health and Social Care Information Centre, 2015). In 2005, also in England, the NHS and Social Care Model was launched; it promotes the improvement of care for long-term patients and a structured and systematic approach to cooperation between health and social care organisations. Although this model is based on the CCM and the KPPM, it “also reflects the strengths of the existing infrastructures and services, particularly in primary and community care” typical in England (Department of Health, 2007). Goodwin et al. (2010) considered measures to obtain better management of people with long-term conditions; they considered the role of GPs and the general practice team to be central. Gulliford et al. (2011) quantified the problems of relational and management continuity of care in patients with multiple long term conditions. They found that the risk of inadequate management continuity is increasing in the number of long term conditions suffered by the patients, with a negative effect in their healthcare provision. Newbould et al. (2012) studied the understanding of care management of patients with multiple chronic long-term conditions. Their sample identified problems like poor continuity and coordination of care, lack of time in consultations, and patient concerns about what was legitimate to discuss with the doctor. Recently, the NHS (2014) published an evaluation that showed improvement in the care of some chronic cancer and cardiac patients, while recognising that the quality of care remains variable.

The second useful lesson from the UK is related to a discussion of how care provision, network management, and hospital financing should evolve. This discussion relates directly to the integration of care and the financing of chronic care by providers (primary care, hospital, specialist care, or community care), by increasing the importance of prevention and public health programs, with the use of multidisciplinary teams. The direction to go starts by increasing the importance of prevention and public health programs, and improving coordination between family doctors and hospitals, physical and mental health, and health and social care. The NHS proposes to allow combinations of GPs and nurses, other community health services, hospital specialists and perhaps mental health and social care to create integrated out-of-hospital care. This option has been named “the Multispecialty Community Provider” (NHS, 2014). Another option that will become available soon is the integration of primary and acute care systems (combining general practice and hospital services). At the same time, the NHS plans to redesign urgent and emergency care services so as to integrate accident and emergency departments, GP out-of-hours services, urgent care centres and ambulance services, and allow small to hospitals form partnerships with other hospitals so that they become economically viable.

In 2014 The King's Fund published a discussion between several specialists about different formulae that might help providers to become more efficient. They included the pros and cons of buddying arrangements (“a

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partner organisation is selected, by the NHS Trust Development Authority or Monitor, for its strength in the areas of weakness at the trust in special measures”), franchising (“the franchisee takes over the management of a trust for an agreed period of time”), turnaround (“provide leaders with support and incentives to take on challenges” so that troubled organisations solve their problems)(The King’s Fund, 2014) and the creation of hospital mergers and hospital chains. Robertson et al. (2014) proposed involving specialists in “looking beyond the four walls of their hospital to work as part of a multidisciplinary team and develop services that address the needs of their local population at each stage of their journey from home to hospital”, becoming as a consequence educators who advise and support other primary and community health workers to improve the diagnosis and treatment to patients at the community level. In addition, the Future Hospital Commission (2013), established in 2012 by the Royal College of Physicians, proposed a radical view of the hospital of the future. They followed the principle of adapting to the needs of patients and argued that “care should come to patients and be coordinated around their medical and support needs”. They produced many innovative proposals, including a hospital structure based on three new components: the Medical Division, the Acute Care Hub, and the Clinical Coordination Centre (García-Goñi et al., 2015).

Also related to efficiency in provision and the financing of health systems to respond to the challenge of chronicity in the UK is the use of pay for performance within the NHS. The program Advancing Quality is intended “to improve standards of healthcare provided in NHS hospitals across the North West of England and reduce variation” (NICE, 2015). Transparency of data on the performance of different hospitals can help patients and the insured population to choose where to seek healthcare. This is an important step towards competition in the provision of healthcare, even under a system of public provision, because it improves the efficiency of the health system and therefore its financing.

In summary, the UK has been very active in responding to the challenge of chronicity and adapting the NHS and health financing arrangements. It has progressed in four main ways. First, healthcare provision to people with chronic health conditions has been heavily influenced by the CCM and the KPPM in the implementation of disease management and integration of care. Second, through the inclusion of economic incentives to providers, such as GPs, who are central to the coordination of care. Third, through the development of proposals and discussions on the development of future hospitals and its financing, and through the implementation of pay for performance and the use of risk adjustment to allocate resources among providers. And fourthly, through the implementation of state-funded residential and social care on the basis of means testing.

4.1.2 Canada

Funding and coverage

As in other countries with a national health system, the principal source of financing for the Canadian health system is general taxation (about 70% of total funds). Out-of-pocket payments (14.7%) and private health insurance (12.8%) are the other important sources of funding. Health services in the Canadian NHS are free at the point of use. As a consequence, they are entirely financed by government revenues mainly at the provincial level (Marchildon, 2013). The small proportion of public health funding that does not finance universal healthcare provision is devoted to long-term care or prescription drugs (Marchildon, 2013). However, in order for those provinces to receive funds from the Canada Health Transfer, they have to meet several conditions specified in the Canadian Health Act with respect to standards for hospital, diagnostic and medical care services; provision of health services and community health programs for specific populations. At the same time, the federal government regulates safety and efficacy of therapeutic products, medical devices or pharmaceuticals (Marchildon, 2013).

Universal coverage does not fully include long-term care. As a consequence, there are differences in the

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way in which provinces and territories implement public policies, subsidies, or programs for long-term care patients. Most residential care is financed by private means, while most nursing care is financed by public funding (Marchildon, 2013).

Allocation of resources and provision

After receiving funds from the Canada Health Transfer, based on the primary need for health provision by the territorial government, some other federal programs add unconditional transfers, such as the Territorial Formula Financing designed to ensure that all Canadians “have access to reasonably comparable services at reasonably comparable levels of taxation” (Expert Panel on Equalization and Territorial Formula Financing, 2006), or the Canada Health and Social Transfer for social assistance (Marchildon, 2013). Regional Health Authorities administer, fund and coordinate service provision, and most of them also deliver those services. However, as in the UK’s NHS, the focus in Canada is more on integration than competitive contracting. Hospitals are mostly financed through global budgets, although in recent years, other reimbursement schemes (such as activity-based funding) have been introduced, and the criteria for allocating funds to health providers have changed to be based on the needs of the population.

Recent experiences in funding and organising integrated care

The Canadian National Health System has answered the challenge of financing the increasing health expenditure result from increasing chronicity in the population. As far back as 2000, Leatt et al. (2000) stressed the need for the Canadian health system to integrate hospitals, doctors’ offices, group practices, community agencies, private sector organisations and public health departments. Pilot programs of integrated care for the elderly began in the 1990s: they included the Comprehensive Home Option for Integrated Care of the Elderly (CHOICE) program in Alberta in 1996, the Programme of Research on Integration of Services for the Maintenance of Autonomy (PRISMA) in Quebec in 1997–1999, and the *Services integres pour les personnes âgées en perte d'autonomie* (SIPA), also in Quebec in 1999–2001 (Bienkowska-Gibbs, 2013a). In 2005, Ontario’s Family Health Team (FHT) focused on the integration of primary care and included formation of interdisciplinary healthcare teams and economic incentives for physicians (e.g., bonuses for achieving specific preventive care targets or for providing home visits or palliative care) (Rosser et al., 2011). SIPA, PRISMA and CHOICE were evaluated and found to be cost-effective (Beland et al., 2006; Hébert et al., 2005; Pinnell Beaulne Associates Ltd, 1998 respectively). There is still no evaluation for the FHT program.

The Canadian Academy of Health Sciences (Nasmith et al., 2010) reviews programs designed to improve care for people with chronic health conditions, such as chronic disease management programs, the Mental Health Strategy (Mental Health Commission of Canada, 2009), and other primary care models implemented in different regions. Groups of family doctors, health and social service centres and local networks of providers form health infrastructure that enhances individual and collective case management of health needs. Nasmith et al. (2010) also review different programs intended to improve connections between hospitals, specialists and primary care doctors. Most of these are based on education of chronic and aged patients in order to improve efficiency and avoid multiple referrals. The Interprofessional Model of Practice for Aging and Complex Treatments at Sunnybrook Hospital in Toronto has been “found to produce greater efficiency with real-time problem solving and avoidance of multiple referrals” (Nasmith et al., 2010)

Vedel et al. (2010) reviewed programs to integrate hospital-based, nursing home, homecare and social services that created groups of family medicine and network clinics across Quebec. They concluded that even with challenges still to be faced, the care provided in the healthcare system was becoming better integrated, and efforts should be focused on strengthening primary care with better use of nurse practitioners, a better shared information system, and better collaboration between primary and secondary care. Along similar lines, the College of Family Physicians of Canada (2009) has suggested the introduction of medical homes.

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The medical home concept was firstly used in the USA (Berenson et al., 2008). It includes “an ongoing relationship with a personal physician who leads a practice team, whole person orientation, coordinated or integrated care, quality and safety, enhanced access to care, and payment that recognizes the added value provided to patients” (Nasmith et al., 2010) and the concept is being considered for adaption to the Canadian framework. Vachon et al. (2013) evaluated a program of inter-professional education, finding it improved the quality of care and collaborations between health professionals.

The traditional Canadian model of primary care is based on fee for service payments to family physicians. Patients are free to choose their family physician and even if they can change, most choose to have long-standing relationships with one physician (Marchildon, 2013).

However, in recent years, economic incentives have been implemented to improve equity in access to primary care in all geographical areas. Different models have been assessed in terms of performance, including payments based on salary for those family doctors providing care to lower socioeconomic status populations, and the implementation of blended payments (Marchildon, 2013). The Blended Payment Arrangements for Primary Care Physicians in Ontario (Accreditation Canada 2015) specify how payments to family doctors in Ontario are designed through combinations of capitation, fee for service, salary and targeted payments. Risk-adjusted capitation constitutes the basis for reimbursement of Family Health Organizations and Family Health Networks (39% of doctors). Fee for service is the basis for payment to doctors enrolled in Family Health Groups and Comprehensive Care Models (29%). In contrast, doctors providing service at The Rural and Northern Physician Group Agreement and in community-sponsored family health teams obtain their payment as salaries (2%). All payment systems include special fees or premiums for specific priority services (such as reproductive care, palliative care and home visits), pay-for-performance for achieving specified levels of preventive care coverage (seniors’ influenza vaccination, cervical cancer screening, mammography, and colorectal cancer screening), and incentive fees for the management of patients with diabetes and congestive heart failure, and for smoking cessation (Accreditation Canada, 2015).

As a result of these reimbursement methods, by 2012 only 24 per cent of family doctors in Ontario were receiving payments through the traditional fee-for-service method. Total payments to primary care doctors increased by 32 per cent between 2006 and 2010, and average payments to family doctors increased by more than those to specialist care doctors. Several studies “suggest that the practice can lead to improved performance and has the potential to produce positive outcomes on health” (Accreditation Canada, 2015). A specific example of economic incentives in primary care, including blended payments, is given by the Billing & Payment Guide for Blended Salary Model Physicians, at the Ministry of Health and Long-Term Care website (Ministry of Health and Long-Term Care, 2012).

In summary, Canada has been very active in the implementation of health programs focused on improving the quality and efficiency of care through the integration of primary care, specialist care, and hospital care. Care for people with chronic health conditions has improved, although it has a long way to go. However, in recent years there has been little reform of the financing of chronic and social care services, other than the provision of the GP payments discussed above and the use of risk adjustment to efficiently allocate resources for health providers.

4.1.3 New Zealand

Funding and coverage

The health system in New Zealand is mostly publicly funded through taxes. The government is responsible for the planning, purchasing and provision of health services, and also for disability support services for people aged over 65. Services are delivered through 20 geographically defined district health boards (DHBs) (Gauld, 2015). Universal care for all permanent residents of New Zealand includes preventive care, primary care,

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inpatient and outpatient hospital care and prescribed pharmaceuticals, mental care, dental care for school children, and even some long-term care and disability support (Gauld, 2015).

Allocation of resources and provision

New Zealand employs capitation from public funds to reimburse primary care doctors and nurses, although users also pay co-payments as additional fees. However, the safety net in New Zealand reduces or eliminates those co-payments for children aged 6 or under, and for most individuals enrolled in primary health organisations. Thus, “more than 90 percent of children under 6 years of age can access free primary care services at any time, and one-third of New Zealanders access services where the maximum adult fee is NZ\$17” (Gauld, 2015). Most specialists working for the public system (who may also work in the private market) earn a salary. Public hospitals are reimbursed based on a budget assigned by the DHB, consisting of the salary of all the health personnel and the cost of the expected inpatient services using a case-mix funding system (Gauld, 2015). Under this scheme, outpatient and inpatient hospital services, including maternity services, are free at the point of use (Cumming et al., 2014). Most pharmaceutical prescriptions have a co-payment of NZ\$5 per item, and basic dental services are publicly financed and free for children. Dental care for adults and optometry are privately financed. Long-term care is both privately and publicly financed (Cumming et al., 2014) with subsidies being means-tested (Gauld, 2015). About 38 per cent of adults have supplementary private health insurance, representing about 4.9 per cent of total health expenditure (Cumming et al., 2014).

Recent experiences in funding and organising integrated care

New Zealand has promoted integrated and coordinated care since the 1980s; one of the main goals has been the reduction of fragmentation at the governance level (Mays, 2013). In addition, the health system has made efforts to improve the management of healthcare for long-term patients. Following establishment of the national Health Funding Authority, efforts to promote the integration of healthcare have focused on local organisations, such as Independent Practitioner Associations, taking responsibility for primary and community healthcare for people with chronic conditions (Mays, 2013). However, in those pilot programs, independent, integrated care organisations did not take budgetary responsibility. Also, since the release of the Primary Health Care Strategy (2001), multidisciplinary teams have been formed with the goal of improving chronic disease prevention and management. Although chronic care provision improved with these measures and greater investment in primary care, the level of care coordination and integration remained insufficient; hence from 2008 other programs were implemented, including Integrated Family Health Centres with especial focus on people with chronic health conditions (Mays, 2013). The New Zealand government has made clinical integration a priority for the Ministry of Health (New Zealand Ministry of Health, 2012).

In summary, New Zealand has been active and in the last decade has designed different pilot programs focused on prevention, health promotion, and coordination of care to people with chronic health conditions in which economic incentives are aligned across different providers with the aim of improving healthcare provision to people with chronic health conditions. However, the Ministry of Health has recently pointed to clinical integration of care as a priority.

4.1.4 Spain

Funding and coverage

The Spanish National Health System is funded publicly through general taxes. Health provision is organised by regions, free of charge at the point of delivery (with some exceptions, such as prescribed medicines that include co-payments), and provides universal coverage (García-Goñi et al., 2012). Regional Health Services are responsible for the reimbursement of healthcare expenditures to providers (public or private) under different schemes.

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Allocation of resources and provision

The Spanish government traditionally allocated funds to the different regions (also called autonomous communities) based on geographical factors and capitation. However, in recent years, more sophisticated models that assign weights to age groups have been introduced; resource allocation now occurs on the basis of “population adjusted by effective health protected population, population of school-age children and those aged 65 and over, plus the previous geographical factors” (García-Armesto et al., 2010). The national health system defines the fundamental public services included in the safety net. They include not only health but also education and social services. In 2006 the Spanish Parliament passed the Law of Dependence, with the aim of granting new rights to citizens in need of long-term care personal assistance (Guillén & Comas 2012); however, not all levels of need are funded. Most beneficiaries receive allowances for the use of family informal care (OECD, 2011). Health professionals working in public healthcare provision earn a fixed salary that increases with time and seniority. Also, generic prescriptions of pharmaceuticals can be promoted through regions which are free to use (and some do) incentive payments for GPs for this.

Parallel to Spain’s NHS model, three mutual funds: the Mutual Fund for State Civil Servants (MUFACE), the General Justice Mutual Company (MUGEJU) and the Social Institute for the Armed Forces (ISFAS) – provide public health insurance exclusively for civil servants (about 5% of the total population). These funds are financed through a mix of payroll contributions and taxes. Civil servants can opt out of the NHS by choosing fully private provision (García-Armesto et al., 2010). Chilean health systems also provide the possibility of opting-out from the public provision (World Health Organization, 2008).

Recent experiences in funding and organising integrated care

The economic crisis that began in 2008 forced the Spanish NHS to cut expenditure and search for efficiencies in provision. Because a significant proportion of that expenditure, about 70%, was devoted to the healthcare provision of people with chronic health conditions (Bengoa, 2008), policymakers in different regions responded in different ways.

Spanish initiatives to improve care for people with chronic health conditions can be divided into three categories: integrated care, health management for multi-morbidity patients, and disease management (Nuño et al., 2012). Integrated care can be further divided into clinical processes for specific patients with multimorbidities (Ollero et al., 2007) and the constitution of integrated health organisations with a single legal entity but separate providers for primary and hospital care, such as the Bidasoa Integrated Health Organisation, Bizkaia Mental Health Services, the Baix Empordà Integrated Health Service, and the Integrated Health Consortium of Hospitalet (Nuño et al., 2012). The second category of initiatives provides for the health management of multimorbidity patients out of integrated care organisations. These initiatives have created units or teams at hospitals including the figure of the “case manager” (usually being a nurse), following the traditional CCM model and using population stratification methodologies. Services include “education for patients and caregivers, individual care plans, access to shared electronic medical records by different care providers, the development of proactive relationships with patients, and remote communication technologies” (Nuño et al, 2012). Finally, Spain has implemented or trialled many disease management initiatives, with varying degrees of success and have demonstrated that traditional healthcare provision does not work well for people with chronic health conditions and that, as a consequence, the health system needs to improve. Nuño et al. (2011) show how the impact of disease management programs improves with a greater degree of coordination or integration of care.

In summary, the Spanish NHS has been quite active in the last decade in the search of an answer to the challenge of increasing chronicity in the population. The high degree of decentralisation by regions in health policy, planning, and provision has allowed Spain to develop different models with particular focus on integration of care, management for multimorbidity patients, and disease management programs. However,

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fragmentation of care remains a concern and there has not been any significant change in the financing of chronic care, long term care or social care.

4.2 Social health insurance (SHI) systems

Many countries use a social health insurance system to organise, finance and provide their health services. These are generally characterised by public financing through social contributions and private provision. In this section we explain how four countries with SHI systems – The Netherlands, Germany, Japan, and South Korea – are meeting the challenge of financing the increased cost of chronic care.

4.2.1 The Netherlands

Funding and coverage

The Dutch health insurance system is divided into three parts or components. The first part is a compulsory SHI scheme that provides continuity of care for patients with long-term conditions. It is regulated by the Exceptional Medical Expenses Act and financed by income-dependent contributions, totalling about 40 per cent of total contribution-financed healthcare (Schafer et al., 2010). The provision of this type of care includes means-tested income-dependent cost sharing (Schafer et al., 2010). The second component is a universal SHI system providing the basic health insurance that includes essential curative care with proven efficacy and cost-effectiveness. This component is based on collective financing and absorbs about 60 per cent of total contribution-financed healthcare. The third part is voluntary private health insurance, which covers services not included in the other two parts. Preventive care and social care are not part of the social or voluntary health insurance schemes, but are mostly financed by general taxation.

Allocation of resources and provision

The SHI market in The Netherlands is a good example of private provision with public financing in which there are economic incentives for efficiency in provision through the use of risk adjustment (capitated payments). The Netherlands' risk adjustment scheme is more sophisticated than those of other countries, and consists of a bundled payment (Struijs & Baan, 2011) that provides incentives for efficiency in healthcare provision, including incentives for chronic care integration.

The bundled payment system was designed to answer the challenge of an increasing prevalence of chronic conditions and consequent increase in healthcare expenditure and provides for bundling reimbursements for different types of health services provision, avoiding a fee-for-service type of reimbursement that might remove incentives for efficiency. It involves an episode-based payment that reimburses a fixed amount per episode of care and patient intended to cover the costs of all the health services delivered (Charlesworth et al., 2012). The bundled payment is used to reimburse at least two providers (primary care, hospital care, specialist care, etc.) and promote incentives for better coordination of care. At the same time, bundled payments under a competition framework incentivise the quality of care in order to attract insured individuals. As private insurance companies are obliged to cover primary care, all healthcare provision must meet quality standards and pass the efficacy test. All insured individuals contribute a flat-rate premium and an income-dependent contribution (Van Weel et al., 2012).

Because bundled payment raises the concern of risk selection, the Netherlands apply a second mechanism for allocating funds among health insurers, s an ex post compensation that is composed of an ex post “outlier risk sharing” to cover current expenses for high-cost care, a bandwidth arrangement that limits the risk for health insurers (it depends on the deviation of the average costs for an insurer from the national average), and a retrospective correction of total costs that protect insurers against situations that they cannot control but influence their expenditures (Schäfer et al., 2010).

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Recent experiences in funding and organising integrated care

In 2007, The Netherlands launched a pilot program for diabetes patients that included bundled payments for integrated care providers (Struijs & Baan, 2011). Health insurers were allowed to contract the provision of healthcare to 'care groups' that were clinically and financially responsible for the diabetes patients in the program. The bundled payments were thought to provide incentives for efficiency since the integrated care group could obtain profits by savings from a mix of health services being provided at lower cost than visits to specialist or hospital care. The set of covered services was defined by the national disease-specific healthcare standards, although their prices were negotiated individually between insurers and care groups to spur competition (Llano, 2013a). An extension to this bundled payment program was approved in 2010 for COPD and vascular risk patients (de Bakker et al., 2012). In the program specifically for diabetes patients, it was found that even if data reporting was stipulated in the contracts, most care groups did not have the health information technology necessary to deliver information on outcomes enabling providers and insurers to monitor the results of the program (Struijs et al., 2010). In 2012 the National Institute for Public Health and the Environment presented its evaluation of the bundled payment program for diabetes care patients. Using data from 2008 and 2009, Struijs et al. (2012) showed that healthcare costs for most patients enrolled in the program increased more than for patients not enrolled. Various explanations were offered for the negative result, including the time needed to obtain positive results, the fixed costs of starting the program, and the fact that the quality of diabetes care is already high (Struijs et al., 2012).

Kruis et al. (2014) reviewed research on integrated disease management in primary care (including the creation of multidisciplinary care groups); mostly with positive evaluations. When specifically examining the effect on quality of life of integrated disease management delivered in primary care for COPD patients compared to usual care in The Netherlands, they found that the integrated disease management program had no additional benefit (although patients reported significantly greater daily physical activity than non-participants). Kruis et al. (2014) concluded that the real effect of integrated disease management in primary care remains inconclusive.

Although The Netherlands has begun integrating healthcare through its bundled payment system, further improvements have been proposed including development of a more patient-centred system that allows patients to choose their health provider so as to maximise competition and quality of care, with more control over the services that are received by each individual instead of a unique bill per care group that might double the cost of some services (Struijs et al., 2012; Llano, 2013b).

The managed competition system introduced between 2005 and 2006 modified the main hospital payment system towards a diagnosis-treatment combination (Diagnose Behandel Combinaties – DBCs). At the same time, health insurance laws necessitated radical changes in hospital management and their negotiations with insurers in terms of the volume of activity and the quality of care. There are two segments of hospital services. The A-segment contains care products for which the regulator (Nederlandse Zorgautoriteit, NZa) has fixed a maximum price. The B-segment covers products for which there is a competitive market between hospitals and insurers. The proportion of products covered under the B-segment has increased in time relative to those covered under the A-segment, from about 7% in 2007 to 34% in 2009 and 50% in 2011 (Nucciarelli & Ivanovic, 2013). The Dutch health system in 2012 modified its design of the reimbursement to hospitals and replaced the DBCs with 3000 diagnosis based codes on the road to transparency (DOT). Its aim was to reinforce the correspondence between diagnosis and treatment(s), to avoid duplication of treatments, and to facilitate interdepartment reimbursement procedures (Nucciarelli & Ivanovic, 2013).

The expected effect of managed competition in hospitals is to increase the volume of patients and take advantage of economies of scale and scope, reducing costs while maintaining high quality. In order to

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attract patients, hospitals must maximise quality and use the best and most efficient available technology. Two different trends have emerged in recent times (Nucciarelli & Ivanovic, 2013). First, hospitals are already standardising products with fixed reimbursement based on diagnoses based codes so that the important variable is volume rather than quality. Second, a patient-centred strategy is being articulated in some hospital systems through specialisation with, for instance, safety variables or waiting times in order to make the hospital attractive to patients and increase the volume. Both of these lead to specialisation within health services, whereas effective chronic health care requires a broadly based multidisciplinary and multi-layered services framework and access (Nucciarelli & Ivanovic, 2013).

In summary, The Netherlands has responded to the challenge of increasing chronicity in the population by inclusion of incentives for efficient health care provision through risk adjusted reimbursement and competitive pressure in the insurance and provision market for hospital provision services. At the same time, there is a component of the health system devoted specifically to long term care and chronic care. Although a diversity of initiatives have been launched towards the integration of care, their effect remains uncertain .

4.2.2 Germany

Funding and coverage

Germany's SHI scheme covers about 85 per cent of the population; 11 per cent are covered by private health insurance (including civil servants), and 4 per cent are covered by other sector-specific government schemes (Busse & Blümel, 2014). Most health expenditure stems from public sources (72.9% in 2012); 57.4 per cent of total finance for health came from statutory health insurance, while statutory long-term care insurance, introduced in 1993, accounted for 7.7 per cent. Only 4.8 per cent stems from taxes. Most out-of-pocket payments by individuals involve the purchase of services beyond the SHI benefits package.

Allocation of resources and provision

Since 2009, all German residents have been required to have health insurance. Sickness funds are responsible for collecting contributions from both employers and employees and transferring them to a central reallocation pool, which collects those contributions and returns them to the sickness funds according to a morbidity-based risk-adjustment scheme. Contributions depend on income level but not on risk (Busse & Blümel, 2014). As usual, when risk adjustment is used, there is the concern of risk selection. In order to respond to that concern, it is mandatory for sickness funds to accept any eligible individual, no matter their income or risk level.

When German residents need long-term care, they can choose their health provider. Moreover, those receiving statutory long-term care may choose whether they receive in-kind benefits, cash benefits or any combination of both (Busse & Blümel, 2014). This statutory long-term care is collected through a joint contribution of employers and employees of 1.95 per cent of monthly gross income (0.975% each; 1.95% from the pension if individuals are retired), or 2.2 per cent for residents older than 22 without children. In order to receive long-term care benefits within the statutory long-term care insurance, residents must apply for those benefits and pass an evaluation from the Medical Review Board. If approved, patients can choose to receive monetary benefits or professional nursing care at home or at a nursing home.

Recent experiences in funding and organising integrated care

The German health system has historically suffered from organisational fragmentation (Siering, 2008). To address that problem, in 2004 the Statutory Health Insurance Modernisation Act (2004) allowed spending of 1 per cent of the total health budget on integrated care programs. Evaluation of this reform showed that most programs focused on specific indications and integrated only two services: rehabilitation and inpatient

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care. The most successful program was the *Gesundes Kinzigtal* Integrated Care initiative (Llano, 2013b), a population-based integrated care system covering all levels of health providers and types of care for the specified population (Hildebrandt et al., 2010). It includes individual treatments, patient self-management, case management, and prevention and health promotion strategies, including for the aged population and high-risk individuals with chronic conditions. Profits are obtained only through savings. This program includes individual treatments, patient self-management, case management, and prevention and health promotion strategies for the aged population and high-risk individuals with chronic conditions. Profits are obtained only through savings. Reimbursement is set by a risk adjusted capitated formula. As a consequence, this program provides incentives for efficiency through investments in health promotion and preventive programs, better coordination or more rational pharmacotherapy. However, this model includes some reimbursement based on pay for performance, so risk selection is a possibility (Llano, 2013b).

Another interesting experience of integrated care in Germany is that of the *Saxon Diabetes Management Program (SDMP)* in the early 2000s. The SDMP consisted of contracts regarding the care provision to diabetic patients between health insurance providers, GPs, and diabetes specialised practitioners (DSPs) within the Saxon association of Statutory Health Insurance Physicians. This program included integrated practice guidelines and diabetes management structure, with its evaluation based on integrated quality management, taking into account the importance of the education for patients with diabetes. Rothe et al. (2008) provide an evaluation of the SDMP and show how this type of integrating contracts between GPs and specialists improved efficiency of care and reduced regional differences in the therapeutic management of diabetes patients and their outcome in health status, together with a better approximation to the targets given in the guidelines (Rothe et al., 2008).

In summary, in the past decade, the German government made several attempts to improve the integration of healthcare provision. However, despite the government's commitment and multiple financial incentives, results were only partially positive. The process of strengthening primary care is still underway and more reforms are needed to integrate the still fragmented health system (Schlette et al., 2009). Efficiency gains in future should come from a more specific strategy for the care of patients with complex disease patterns, which means the flow of information between the service providers and competition in contract and care provision needs to improve so that more holistic treatment is feasible (Amelung et al., 2012).

4.2.3 Japan

Funding and coverage

Japan offers universal primary care within a public health insurance system in which enrolment is mandatory (Matsuda, 2015). All insurers "provide the same national benefits package, which covers hospital care, ambulatory care, mental health care, approved prescription drugs, home care, physiotherapy, and most dental care; it does not cover corrective lenses unless recommended by physicians for children under nine years old. A number of preventive measures are publicly provided to those age 40 and older, including screening, health education, and counseling. Since 2000, long-term care has been covered under its own insurance system, administered by municipalities. Long-term care insurance provides personal budgets for patients to arrange their own services or have them organized by care managers" (Matsuda, 2015). At the same time, insurers can offer supplementary private health insurance. Individuals are responsible for a copayment of 30 per cent for the provision of most services, although annual ceilings may apply (Matsuda, 2015). The system is financed through premiums paid by individuals and employers (48.8%), subsidies from taxes (38.4%), and co-payments (12.3%) (Matsuda, 2015).

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Allocation of resources and provision

Methods of payment to health providers vary. While fee for service dominates in primary care and specialist care, medical corporations and hospitals (mostly private not-for-profit entities) pay doctors salaries. Reimbursement from the public insurance system for more than half of Japanese acute care hospitals is based on the Diagnosis Procedure Combination modification, which is a case-mix classification similar to the internationally known diagnosis-related groups (Matsuda et al., 2008), including prospective payment and also a proportion of fee for service. Some hospitals are reimbursed only on fee for service, and the hospitals decide which system to use (Matsuda, 2015).

Recent experiences in funding and organising integrated care

Japan has the highest life expectancy of any country – 83.2 years in 2012 (OECD Health Data, 2014), and there is considerable concern about the cost of long-term care and the care of people with chronic health conditions. In 2000 Japan implemented a national and mandatory long-term care insurance program for individuals older than 65 (or older than 40 if disabled) which includes nursing services, home nursing, home care, and disability equipment. It is financed equally by taxes and premiums, although there is a 10 per cent co-payment that can be waived for low-income individuals. Insurance payments are mandatory for individuals aged 40 and older (and their employers) (Matsuda, 2015).

Japan has various programs promoting integration and coordination of care. Physicians and nurses function as teams within clinics, although physicians provide most of the care. Multidisciplinary teams are uncommon, but coordination among different clinics and providers has been increasing in recent years (Matsuda, 2015). In 2008 financial incentives were implemented for hospitals and clinics, especially for people with chronic health conditions suffering cancer, stroke or in need of cardiac and palliative care. In 2014 the government introduced another financial incentive, a new monthly payment, designed to increase the number of clinics with three or more physicians (Matsuda, 2015).

In summary, the Japanese SHI has reacted to the challenge of chronicity with a mandatory long term care insurance. At the same time, reimbursement schemes are focused on the efficiency of care provision. Also, some programs promoting coordination and integration of care have been implemented.

4.2.4 South Korea

Funding and coverage

South Korea's national health insurance system is mandatory and offers universal care. Like other SHI systems, it is financed mostly through social contributions by workers and employers, although there are also government subsidies and out-of-pocket payments by users (Chun et al., 2009). Co-payments depend on the level and type of health services and there is a ceiling in any period of six consecutive months that exempts the user from further charge (Song, 2009). In 2012 54.5 per cent of total health expenditure was publicly funded; most private funding is out-of-pocket payments (OECD, 2014). Most health providers (including hospitals) are private and individuals can choose freely among them, and inpatients can usually choose between wards with varying facilities and corresponding fees. Public health is mostly provided by the government. The basic basket of services includes oriental medical treatments.

Allocation of resources and provision

The National Health Insurance Corporation (NHIC) is the sole payer and negotiates fees with health providers. Providers are paid on a fee-for-service (FFS) basis (Chun et al., 2009).

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Recent experiences in funding and organising integrated care

Due to concern about the increased incidence and prevalence of chronic conditions in the population, in 2008 the Korean government implemented long-term care insurance for aged individuals with serious limitations on independent living. This program is financed through subsidies, co-payments and long-term care insurance contributions paid by the insured (Song, 2009).

4.3 Health systems with high demand cost share: USA and Singapore

4.3.1 The health arrangements for people with chronic health conditions in the USA

Funding and coverage

Although the USA is frequently cited as an example of a country with a private health system, it spends 47.6 per cent of health expenditure through public federal programs (OECD, 2014) such as Medicare (for those aged 65 years and older and/or disabled) and Medicaid (for low-income individuals and families). Healthcare is primarily delivered by private providers, with most USA residents accessing healthcare through health insurance subsidies and consumer co-payments. A significant minority of the population had no access to health insurance prior to the 2014 implementation of the 2010 Affordable Care Act and associated Acts (Department of Health & Human Services, 2015). Known as the '2014 market reforms', these Acts provide guaranteed access to health insurance for all enrolled persons, together with significant consumer protections.

Allocation of resources and provision

The United States has a private health system in which both private financing and private provision of services is the norm. Private health systems operate through competitive markets in which consumers have freedom of choice among all the insurers offering plans. Enrolment for health insurance is legally voluntary. The amount paid through premiums (by either an individual or an employer) is commensurate with the level of insurance and service provision consumers are able to access. As a consequence, their choice about buying insurance or their choice of plan among the competitors might not be economically voluntary, meaning low-income individuals can become uninsured if they cannot afford to pay the premiums. Therefore, access to healthcare is not universal.

Insurers participate in the provision of care through Medicare and Medicaid; reimbursement is set through prospective payments using a risk adjustment formula (Van de Ven & Ellis, 2000). As a consequence there are incentives for efficiency through savings in healthcare provision, as in The Netherlands, but there are also incentives for attracting low-risk and low-cost enrolees and deterring unprofitable ones – that is, risk selection. This is evidenced in the reimbursement scheme for hospitals.

In 2007 the Centers for Medicare and Medicaid Services (CMMS) adopted 745 Medicare Severity Diagnostic Related Groups (MS-DRGs), replacing the previous 538 DRGs within the Medicare's Inpatient Prospective Payment System for acute care inpatient hospital stays. A flat payment weight per DRG is assigned to each inpatient stay as a financial incentive for hospitals to provide services more efficiently (Bienkowska-Gibbs, 2013). However, the reimbursement rate for individual hospitals, rather than being calculated using the national average payment rate, takes into account the input-price level in a particular region and the proportion of low-income patients. There are also some additional payments for outliers or cases with unusually high cost in order to reduce incentives for risk selection. The advantage of this DRG payment system is its incentive for efficient and integrated provision through competition in the hospital market; however, it also encourages risk selection. Hence the introduction of MS-DRGs, which avoid excessive reimbursement for less severe and costly patients and adjust better for expected costs and reimbursement. The gains in efficiency through integration of care are a consequence of this cost control incentive. This hospital payment reform has not yet been evaluated (Bienkowska-Gibbs, 2013).

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Recent experiences in funding and organising integrated care

We have mentioned how the CCM and the KPPM are two of the main models of chronic healthcare planning and provision. Both of them were developed and firstly implemented in the USA, under a framework of private health insurance in which providers are financially responsible for the cost of provision. In that environment, the promotion of integrated care for people with chronic health conditions and the use of multidisciplinary teams is more closely related to incentives for efficiency in healthcare provision than the quest for equity. Coleman et al. (2009) and Panattoni et al. (2011) present positive, but not conclusive, evaluations for CCM and KPPM health intervention programs respectively.

The Program of All-inclusive Care for the Elderly (PACE) is a useful example of integrated care in the USA; it is a Medicare program for older adults and people over age 55 living with disabilities and eligible for nursing home level of care (PACE, 2014). It originated from On Lok Senior Health Services, a non-profit corporation created to provide a community-based system of care back in the early 1970s. The goal was to delay or avoid institutionalisation of the elderly by providing appropriate daily health and social care (Calciolari & Ilinca, 2011). PACE now operates in 104 sites located in 31 states. Financial incentives in this program are provided by capitation payments to health providers delivering all the integrated healthcare and social services to the insured. PACE creates care teams composed of different types of health professionals: physicians, nurse practitioners, clinic nurses, social workers, occupational therapists, dietitians, health workers or recreational therapists (Calciori & Ilinca, 2011).

The ‘triple aim’ of better quality, experience and cost pursued by integration of care is recognized by The National Committee for Quality Assurance (NCQA), which has promoted the use of Patient-Centered Medical Homes (PCMHs) and Patient-Centered Specialty Practices (PCSPs) (National Committee for Quality Assurance, 2015). Based on those and after the approval of the Affordable Care Act in 2010, the Medicare program launched two further initiatives of interest in 2012: the Accountable Care Organization (ACO) program and the Medicare Shared Savings Program (MSSP). “An ACO is formed when a group of health care providers (physicians, hospitals, non-physician providers, etc.) come together and collectively agree to become responsible for the financial and quality outcomes for a defined population” (Tu et al., 2015). The idea is to change the payment model by shifting financial risk from payers toward health providers, which will be further looking for “decreasing spending while improving quality measures and patient satisfaction”. Although there are different types of ACOs, they are focused on outcome-driven delivery and follow a payment system reform through which health providers can share the savings derived by the integration of care. There are now ACOs in all states providing care to more than 23 million people (Tu et al., 2015). Greene et al. (2015) analysed whether the Patient Activation Measure program, focused on the patient engagement, was associated with better health outcomes and costs over time. Classifying the level of empowerment in patients from 1 (lowest) to 4 (highest), they found that patients with higher levels of empowerment (levels 3 and 4) “had projected costs that were 8 percent lower than those at level 1 and 13 percent lower than those at level 2”.

Furthermore, in 2013 the Center for Medicare and Medicaid Innovation launched The Bundled Payments for Care Improvement initiative (BPCI). Its goal was to “test innovative payment and service delivery models that have the potential to reduce Medicare, Medicaid, or CHIP expenditures while preserving or enhancing the quality of care for beneficiaries” (CMMS, 2014). A bundled payment “encompasses any payment methodology that includes multiple services paid in one single payment” (Pearce & Harris, 2010). The initiative considered four different models of bundled payments:

Model 1 focuses on the acute care inpatient hospitalization. Awardees agree to provide a standard discount to Medicare from the usual Part A hospital inpatient payments... Models 2 and 3 involve a retrospective bundled

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payment arrangement where actual expenditures are reconciled against a target price for an episode of care. Model 4 involves a prospective bundled payment arrangement, where a lump sum payment is made to a provider for the entire episode of care. (CMMS, 2014)

The Lewin Group (2015) recently published the first annual evaluation of the BPCI initiative for models 2 to 4 based on active participants during the first quarter of the initiative (Q4 in 2013). Although this is a very early assessment with a very small sample size, the authors suggest that the BPCI initiative has improved provider performance because they “had been preparing for the implementation of BPCI for some time and, indeed, some of the utilisation changes we observed began prior to the first quarter of the intervention” (The Lewin Group, 2015).

In summary, the USA comprises a private health system in which incentives for efficiency in provision are provided through the implementation and development of risk adjustment strategies, although there are also incentives for risk selection. The challenge of chronicity has been answered with the development of the CCM and KPPM, and integrated care strategies such as the PACE program. The development of bundled payments implemented after the approval of the Affordable Care Act, with the promotion of PCMHs or ACOs furthers the intention to achieve integrated health care. .

4.3.2 The Singaporean health system

Funding and coverage

The Singaporean government is responsible for the nation’s public healthcare system and regulates both public and private health insurance (Liu & Haseltine, 2015). Universal coverage is based on a periodically reviewed basket of services and cost-effective treatments that is to be affordable for all. The Government philosophy of individual responsibility is emphasised in providing incentives for encouraging individuals to look after their own health and use health services. Users pay a part of their health expenses, although there are mean-tested subsidies. Supplementary care beyond the basic basket of services is not subsidised and can be purchased through private insurance.

Allocation of resources and provision

The Ministry of Health provides price transparency and publishes hospital bills for common illnesses, thereby promoting competition among hospitals and other health providers (Haseltine, 2013). Among the most interesting features of the Singaporean healthcare system are the individual financing programs, Medisave, MediShield, and Medifund. Medisave is a compulsory savings account for which the government sets the proportion of wages (depending on age) that workers and employers have to contribute, free of taxes. Individuals may use money in their savings accounts to pay for healthcare services or health insurance and can choose among different levels of amenities and subsidies (Haseltine, 2013). MediShield is an optional insurance program (although about 90% of the population are enrolled) for catastrophic illnesses and treatments that might erode the Medisave account. When needed (i.e., once Medisave and MediShield have been used), citizens can apply for Medifund, the safety net that ensures all Singaporeans have access to basic care. Over 65 per cent of healthcare expenditures are private (Haseltine, 2013). Public hospitals receive a prospective budget and doctors receive a competitive wage (Liu & Haseltine, 2015).

Recent experiences in funding and organising integrated care

In 2009 Singapore created the Agency for Integrated Care to improve coordination and integration of chronic care. Its objective is to promote patient-focused integration of primary care and long-term care. The Agency for Integrated Care is also in charge of assisting the patient when required, as in a chronic disease management program. In that program, public hospital clusters are being transformed into a regional

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healthcare system model so they can collaborate with other health providers (community hospitals, nursing homes, general practitioners, and home care providers) in their region (Liu & Haseltine, 2015). At the same time, there is an effort to integrate health and social care. There is means tested financial support for informal and family caregivers, and long-term care patients may access subsidised programs including the government-regulated but privately run ElderShield program (Liu & Haseltine, 2015).

4.4 Lessons from overseas

National health systems are oriented more towards equity than efficiency. This is because the type of reimbursement for health providers, no matter whether they are public or private, is focused on assuring universal care and avoiding any type of risk selection. Nevertheless, concern about increasing health expenditure has prompted the use of various incentives for efficiency, in the UK more so than in Canada, New Zealand or Spain. For example, in the UK, about 80 per cent of the health budget is allocated to PCTs, including economic incentives for GPs and competitive pressure through pay for performance programs. At the same time, there is in the UK an ongoing discussion on the future role of hospitals and other providers. Primary care is also central in Canada, which has applied a blended payment for primary care that includes fee for service, salary, pay for performance, and premiums for priority service. Another country using blended payments is Denmark (not considered in this report), where Davis (2002) suggests that "the combination of one-third capitation and two-thirds fee-for-service care seems to strike a rather good balance". In fact, our four NHS countries promote the use of health prevention and disease management programs, and provide economic incentives to doctors so as to guarantee access for all individuals regardless of geographical location. At the same time, integration of care is seen as a tool for efficiency, although in NHS countries there is little competition among providers. With respect to social care, also key in the development of a healthcare insurance market with special focus on chronic care, among the NHS countries, only the UK has improved its provision, financed by local taxes and means-tested subsidies. Canada, New Zealand and Spain have made small advances.

Social health insurance system countries also provide universal coverage (through mandatory enrolment). In those countries, most financing comes from social contributions. One of their most notable features is the promotion of competition in the provision of healthcare through providing incentives for efficiency with some sort of risk adjustment. The Netherlands uses a bundled payment with a fixed amount per episode of care and patient that provides incentives for integration in a regulated competition market of healthcare provision. Simultaneously, a compulsory scheme provides chronic and continuous care for long-term care patients, consuming about 40 per cent of total contribution-financed healthcare. Germany also fosters competition and individuals can choose their health provider when they are in need of long-term care, financed through a statutory long-term care scheme that collects 1.95–2.2 per cent of workers' monthly gross income. Japan and South Korea have also implemented mandatory long-term care insurance. Because of the use of risk adjustment or case mix in SHI system countries, there is more weight given to efficiency relative to equity than in NHS countries. As a consequence there is some concern about risk selection, but our four SHI countries are upgrading their reimbursement strategies in order to avoid this problem. For example, The Netherlands has refined the reimbursement scheme with the introduction of diagnosis-based codes to reinforce the correspondence between diagnosis and treatment.

The USA has developed the most important models of healthcare provision to people with chronic health conditions (the CCM and KPPM), and, given the relatively private nature of its health insurance market, is more efficiency-oriented. Recent changes include bundled payments to multiple providers to address fragmentation and costs of care. Lastly, Singapore and its compulsory savings account with high co-payments, stemming from a philosophy of individual responsibility and incentives for health promotion and use of health services, resulting in a very low level of health expenditure, offers an interesting lesson.

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5. Options for and barriers to improved chronic health care for Australia

The Alma Ata Declaration states that

primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. (WHO, 1978)

Since the late 1970s, policymakers worldwide have been striving for universal access to healthcare – “access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access” (WHO, 2005b). However, as pointed out in the 2010 *World Health Report*, the challenge policy-makers face is to ensure universal access to healthcare in systems that are both equitable and financially sustainable (WHO, 2010).

The idea of universal care stems from the concept of externality: that is, a proportion of the cost or the benefit that affects a party who has not chosen to incur that cost or benefit is not taken into account when policymakers decide about the purchase of the insurance scheme or the contracting of providers. As a consequence, choice in the private market is suboptimal, with either too little demand and high prices when there is a positive externality, or with too much demand and lower price than optimal when there is a negative externality.

Establishment of a competitive health insurance market purposefully designed for chronic health care would provide individuals with the choice to buy insurance or not based on their health status and the subjective probability of needing care in the future. However, this would not require individuals to take into account other relevant factors that affect their quality of life, such as, for instance, the future cost of informal care for themselves, or the effect of their choice on the utility of other individuals and other economic sectors. If all individuals took into account the complete effects of their choice of health care cover on all others they would choose a higher level of care at a higher insurance cost and would expect all others to do the same.

Public health represents a typical example of positive externality (Musgrove, 1996) and consequently, health insurance is one of the markets where public sector action is justified. For health insurance to provide universal access to effective health care for chronic health conditions, public intervention is essential to reduce health risks and costs for both supply (insurers and providers) and demand (insured individuals).

There are several reasons why externalities are more important to the establishment of insurance focussed on chronic care than in other insurance markets. Individuals who have self-insured through the private market have purchasing access to early preventive care, and this can result in a delay in the onset of chronic conditions, and in a lower future cost of care (reducing the longer term cost to public funding of healthcare and reducing the effect in other economic sectors). As well, the development of chronic health conditions often leads to reliance on informal caregivers, whose own health status can be affected by the informal care provision, and there is also a negative effect on the participation of caregivers in the labor market. care provision and are not as expensive as formal caregivers.

Clearly, establishment of a universal insurance scheme providing equitable access to early preventive care for chronic conditions, and able to reduce the long term impact on both individuals and informal care givers would be desirable. Moreover, such a scheme would be consistent with the literature on preferences for a health system providing universal access to a basic basket of health (and/or social) care services as in the concept of the safety net. (Culyer & Simpson, 1980; Paolucci, 2011; Van Doorslaer & Schut, 1999).

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5.1 Balancing efficiency and equity and the reason for insurance

One of the greatest challenges to universal access to healthcare is scarcity of resources, particularly given increasing healthcare expenditure, a rising burden of chronic diseases and the ageing population. Hence, a funding model designed to meet chronic health care needs can only be sustainable if the highest quality of healthcare provision for all is obtained at the lowest possible cost. Addressing this challenge needs to encompass the productivity of health providers, the effectiveness of, and return on, investment in public health and prevention programs, together with equitable access. Equitable access requires that all individuals have equal access to the same quality of healthcare services and infrastructure, irrespective of where they live, whether in urban, rural or remote regions of Australia. However, pursuing equity inevitably reduces efficiency, while incentives for efficiency can reduce equity.

In an effort to achieve both efficiency and equity, a universal and sustainable chronic care model will require cross-subsidies from some individuals (those who are not in need but are required to contribute) to others (those who are in need but not required to contribute). This provides comprehensive and universal chronic healthcare coverage as recently proposed by Grignon and Bernier (2012) or can provide a scheme with partial coverage, as proposed by Blomqvist and Busby (2012), based on subsidies for individuals with need and with a defined minimum coverage provided as a safety net.

The demand for (any type of) insurance arises from risk aversion, that is, from the fact that individuals prefer a small but certain loss to the possibility of a large but uncertain loss. An insurance scheme increases welfare by providing consumers with a claim that allows them to receive an income transfer (or the provision of care) should the large loss occur (need of chronic care provision), in exchange for a payment of a smaller amount (the premium). As long as the insurer holds many such contracts and the risks of the losses are independent, supply is indifferent to risk. Furthermore, when the premium is greater than the costs of writing the contract (and the expected loss), the insurance company is better off with the contract than without it.

The provision of insurance produces welfare gains because matching a risk-averse individual with a risk-neutral insurer establishes a Pareto-improvement situation, making some parties better off but not making any other party worse off. That is, indeed, the prime economic function of insurance: transferring wealth between agents with differing marginal utilities of income (Nyman, 2003). Nevertheless, it is important to recognise that the discussion of the economic logic for insurance arrangements to provide effectively for chronic health conditions does not reflect the greater benefit that would derive – and that is the effect on the quality of life and health of the insured.

In order to for the welfare gains of insurance to be recognised, the extent of loss has to be sufficiently large; that is, the greater the extent of loss, the larger the benefits derived from the development of the insurance market. Cross-subsidies between low risk and high risk individuals are better understood when the expected cost for the individual is large because it significantly reduces the financial risk. If the extent of loss or financial risk were too small, only very risk-averse individuals would be willing to buy insurance, but most individuals would not feel risk aversion and they would not be willing to cross-subsidise others. Given the costs of chronic health conditions, both monetary and in terms of quality of life, the extent of loss can be shown to be significant enough to promote risk aversion. With an integrated system, healthcare costs have to be added to social and community care costs. That total cost, given the trend in morbidity and ageing, and the evolution in prices and health expenditures, can be considered to be a significant proportion of average income. As a consequence, a chronic care insurance market can be expected to produce large welfare gains.

Significant market failures will play an important role in the trade-off between efficiency and equity in the constitution of a financially sustainable insurance market for chronic care. Most of these failures stem from

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information asymmetry between the demand side (the consumer) and the supply side (the service provider). In sections 5.2 and 5.3 we examine the various market failures that could arise when trying to develop a chronic healthcare insurance market. In doing so, we identify the problem that arises, the option or options to remove or redress the problem, and consider some of the consequential aspects of these.

5.2 Demand-side market failure: issues and options

5.2.1 Myopic behaviour

Problem

Myopic behaviour occurs when healthcare consumers, unaware of the real risk of suffering from future chronic conditions, make decisions based on their current state (state-dependent utility) with erratic rationality – that is, myopically (Arrow, 1974).

In the absence of policy intervention, consumers can choose to buy, avoid or opt out of health insurance. However, individuals exhibit time-inconsistent preferences, tending to underestimate the likelihood of future ill health. With myopic preferences, consumers are likely to postpone purchasing insurance until it is too late and the risk has greatly increased or been realised. As well as underestimating future risk of ill health, individuals also discount the value of future health and earnings, putting greater weight in their present utility and income.

In insurance markets, premiums are set by insurers based on an individual's risk. In the case of chronic care insurance, this would be the risk of developing chronic health conditions, and would be updated every year. Based on this risk adjustment, young people pay lower premiums than older individuals for the same level of cover, given the correlation between age and incidence of chronic conditions. However, because they underestimate their future risk of suffering from chronic conditions, only a small proportion of risk-aware young people voluntarily choose to purchase insurance, with the remainder deciding it is unnecessary (Brown & Finkelstein, 2009; Cremer & Roeder, 2013; Paolucci et al., 2015). Meanwhile, older people and others at risk or suffering from chronic conditions and wishing to purchase insurance may be prohibited from doing so due to the expense. This leads to a low demand for voluntary chronic care insurance.

Solution

Making chronic care coverage mandatory would increase the uptake of insurance, regardless of an individual's risk or state-based utility. That would work for national health systems as well as for social health insurance systems. Other solutions and strategies include information and education programs targeting younger adults, or the provision of financial incentives and penalties, as in the Lifetime Health Cover (LHC) initiative of the Australian Government, designed to encourage younger people to take out hospital insurance earlier in life and to maintain their cover. LHC is an incremental financial loading on insurance for hospital care that applies if young adults have not invested in hospital cover health insurance by the age of 31 (Department of Health and Ageing, 2012).

Unintended consequences

Mandatory insurance can be financed through taxes or social contributions. Although it solves the problem of myopic individuals being willing to purchase insurance, the way in which it is financed might preclude incentives for efficiency in supply. That happens when, in order to avoid the existence of an uninsured population, the payer reimburses all the expenditures associated with the provision of care. In that case, providers would not be responsible for that cost and would have no incentives for efficiency in provision. Furthermore, they could even increase the demand for the services they provide (in what has been named supply-induced demand), inflating costs further still.

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5.2.2 Public perception of existing safety nets and coverage

Problem

Safety net coverage refers to the situation where public insurance for the population guarantees access to a basic basket of services. The existence of a public health insurance safety net makes individuals less likely to purchase market-based private insurance. However, even the most generous NHS or SHI system cannot subsidise and cover all services needed by patients with chronic conditions in a basic basket of services. Patients with chronic conditions often require a combination of health and social services, with many services (particularly social services) not accessible through health insurance.

The existence of a safety net through public insurance reduces the incentives for individuals to purchase chronic care insurance that would also cover social services. Instead, people rely on the services provided through public insurance, believing them to be sufficient. Similarly, the existence of a safety net can have a negative impact on prevention efforts, with individuals choosing to rely on the public provision of healthcare once they experience poor health rather than invest time and money in prevention (Blomqvist and Busby, 2012).

Provision of a safety net reduces the demand for private, chronic care insurance. Blomqvist and Busby (2012) specify in detail how in the USA, safety net insurance provided by the Medicaid program reduces incentives for individuals to purchase private insurance, as “people who buy private plans are paying for coverage to which they already are entitled, without payment, under Medicaid”.

Solution

Making the purchase of chronic care insurance mandatory would prevent over-reliance on a safety net. By adopting the concept of targeted universalism, welfare gains would be produced and equity achieved with those requiring additional financial support being cross-subsidised by others better able to afford chronic care insurance (Colombo et al., 2011).

In addition, the basic basket of services universally covered can be specified as all types of clinical care other than those considered as luxuries (e.g., a private room in a hospital). Those wishing to access such optional services would be required to purchase them through the private insurance scheme. Another alternative that has been used in the US, as noted in Blomqvist and Busby (2012), is the promotion of the purchase of private insurance through government support or the promotion of SHI.

Unintended consequences

As mentioned, mandatory insurance financed through taxes or social contributions avoids the existence of ‘free-riding’ at the cost of a lack of incentives for efficiency. However, the more generous the basic coverage the more expensive it is, and the greater the opportunity cost of public intervention in other economic sectors. At the same time, as mentioned, generous universal coverage can create lack of incentives for efficiency in the demand because of the moral hazard (see below), and in the supply, depending on the reimbursement scheme. Therefore, while we seek equity and universality, it is important to define the basic basket of services insured and who has access to them and when.

5.2.3 Moral hazard

Problem

Moral hazard, stemming from information asymmetry, represents a considerable problem in healthcare. Moral hazard occurs when a fully insured individual over-consumes healthcare services in an attempt to maximise utility.

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When the provision of healthcare is free (from the perspective of the consumer), demand for healthcare services increases. There are two types of moral hazard: ex-ante and ex-post moral hazard, depending on whether information asymmetry exists before or after the need for healthcare services. Ex-ante moral hazard is when individuals adopt risky behaviours before they have a need to access healthcare services. Ex-post moral hazard is when an individual with a need to access healthcare over-consumes healthcare services. When there is moral hazard in the chronic care insurance market, it produces a population of ‘free riders’, individuals who bear no cost and over-consume healthcare services. In the case of ex-ante moral hazard, insured free riders demonstrate high-risk behaviours such as poor diet, being sedentary, smoking, and other unhealthy lifestyle factors (Manning et al., 1987; Feldstein, 1973). In the case of ex-post moral hazard, insured populations demand and access a greater amount of healthcare services than required.

When moral hazard exists, “free riders” – those who under insure themselves without regard to current or potential future health insurance needs - over-consume healthcare services leading to inefficiency in the provision of healthcare services and welfare loss (Manning et al., 1987; Feldstein, 1973). Mandating the purchase of chronic care insurance would not necessarily prevent moral hazard. Healthcare services would be prepaid at the time of insurance purchase or renewal, with no cost borne by consumers at the point of access. In order to avoid moral hazard occurring, cost needs to somehow be linked to health need and behavioural risk.

Under current financing arrangements in which whole populations contribute through general taxation, moral hazard exists.

Solution

One possible mechanism to prevent moral hazard (particularly ex-post moral hazard) in providing universal insurance cover focussed on chronic care is the use of copayments to deter unnecessary and excess use of healthcare services through cost; however, this produces equity problems. An alternative consists of using health professionals as gatekeepers for needs assessed access to specific health care services.

Unintended consequences

However, increasing co-payments leads to a lowering of the welfare gains of insurance. Co-payments effectively transfer responsibility to the user and financial risk is also transferred back to individuals, partially eliminating the benefit of insurance. There is, as a consequence, a trade-off between insurance and the solution of moral hazard and the free rider, or between risk pooling and moral hazard (Manning & Marquis, 1996). Full insurance eliminates incentives for efficiency in demand. No insurance, or its equivalent, a 100% copayment, would provide perfect incentives for efficiency, but with no welfare gains.

Assessment and validation of need prior to entitlement to access seeks to limit and control the access of patients to chronic care services to prevent ex post moral hazard and contain expenditure. Targeted universalism, with a definition of which individuals might obtain some benefits, would solve the ex-post moral hazard. However, it would be necessary to provide extensive guidelines to define the need for each service and to control the work of the gatekeeper, and ex-ante moral hazard would still exist.

5.2.4 Self-selection

Problem

Self-selection occurs when rational individuals, who have more information than the insurer, choose to purchase insurance that provides the highest level of utility. When consumers face a choice of chronic care insurance from among a range of schemes offering different levels of coverage (some more generous, or with more social care, community care, or residential care than others) and corresponding premiums, individuals will maximise their utility taking into account their health status, their subjective probability of

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needing chronic care services in the future, and also their preferences with respect to risk aversion and their budget constraints, using all the information available to them.

Hence, ‘good’ risks (individuals with a lower subjective probability of incidence of chronic conditions) and ‘poor’ risks (individuals with a greater subjective probability of incidence of chronic conditions) will choose plans with different premiums and coverage. As a result, a separating equilibrium arises in the market: poor risks represent higher financial risk than good risks.

This poses a barrier to the principle of universality and equity in considering how to provide effective access to chronic health care through insurance. At the same time, if too few individuals within each pool buy an insurance contract, health insurers might not find it profitable to offer such schemes and the market and its welfare gains would not exist. This problem has been long understood in the health economics literature on private insurance markets (Rothschild & Stiglitz, 1976; Van de Ven & Van Praag, 1981).

Solution

Health interventions and regulations oriented towards universal and mandatory health insurance for chronic care (with or without need) would remove the self-selection impact, particularly with regulation explicitly defining the basket of ‘goods’ required for coverage within the health insurance framework (including clinical, community and social services) that is necessary to achieve equity for individuals within the universal framework. This would be equally effective from the perspective of both a public and a private framework.

Unintended consequences

Universal and mandatory chronic care insurance solves the self-selection problem only when there is a precise definition of minimum coverage. As a consequence, regulation must specify the basket of services, and there should be tight control on the quality of provision, with transparency of information on the insurers’ performance.

5.2.5 Heterogeneity of preferences and attitudes towards risk

Problem

Individuals respond differently to scenarios based on preferences or attitudes towards risks. For example, decisions to purchase insurance in a private market are based on budget constraints, the subjective probability of future need for healthcare services, and attitudes towards risks. Hence, in a private insurance market, individuals averse to risk are more prone to buying insurance, irrespective of their health risk (Cutler & Gruber, 1996; Finkelstein & McGarry, 2006). This means that completely healthy, young consumers unlikely to require short-term access to healthcare services will purchase insurance. In contrast, there will be risk lovers who prefer not to purchase insurance, even if they are at high risk and high likelihood of needing healthcare services.

The heterogeneity of preferences and attitudes towards risk can lead to lower demand for health insurance by individuals in need. It is possible that risk-averse and risk-loving individuals compensate for one another in terms of cost of insurance purchased and utilisation of healthcare services. For that reason, the feasibility of an insurance model and its welfare gains rely upon large numbers of enrolees for the amortisation of risk and cross-subsidisation to occur. However, there is every possibility that heterogeneity in preferences and attitudes to risks will lead to distortions in the insurance market that could reduce profitability and sustainability. Finkelstein and McGarry (2006) used data from the American Health and Retirement Study to empirically estimate the probability of cautious individuals owning insurance relative to others, and at the same time, their odds of entering a nursing home. They found that individuals with more preventive behaviour usually overestimate their risk of needing health provision, suggesting a ‘pessimism’ factor that distorts demand for insurance.

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Solution

Mandatory healthcare insurance for the entire population renders heterogeneity of preferences and attitudes towards risk irrelevant. Both risk-averse and risk-loving consumers become obliged to purchase healthcare insurance, and the diversity and large numbers of individuals with various health needs and various levels of healthcare utilisation thus spread the risk for insurers and enable cross-subsidisation of healthcare services amongst consumers.

Unintended consequences

Although mandatory insurance solves the problem of preferences and attitudes towards risk, it provides no incentives for efficiency. At the same time, mandatory insurance has a negative effect with respect to risk aversion, in that it reduces individuals' freedom of choice.

5.2.6 Intergenerational cost burden

Problem

When the current costs of healthcare utilisation are not covered by the premiums of currently insured consumers, younger generations of insurance holders must meet the financial shortfall, creating an intergenerational cost burden (Feldstein, 1974).

The two main models of financing insurance are pay-as-you-go (PAYG) systems and funded systems. A PAYG system uses the premiums of the currently insured population to fund healthcare for all those with an existing need to access healthcare services. An intergenerational cost burden occurs in a PAYG system if patients with chronic conditions or at high risk of chronic conditions are newly enrolled. These individuals with high utilisation of healthcare services have not sufficiently contributed to the funding pool, and therefore healthy, usually younger individuals must cross-subsidise their healthcare needs.

A funded system uses accumulated premiums to fund patients' own healthcare at times of need. As in the PAYG model, recently enrolled individuals currently in need of healthcare services will not have had time to contribute enough to cover their healthcare needs. As a consequence, they will either be at financial risk or long-term, healthy insurance holders will have to be cross-subsidise their healthcare needs.

If the healthcare needs of current consumers cannot be paid for through their insurance contributions, the burden of cost will fall on younger generations who might then have reduced access to, and/or financial risk associated with, accessing healthcare services in future.

Solution

The introduction of co-payments is considered to be one way to link cost with healthcare need and behavioural risk. For instance, Baldini and Beltrametti (2006) proposed that a 30 per cent co-payment would be required for the initial 20 years after implementation of a PAYG system for chronic health and long-term care provision. Another suggestion is to means test those requiring healthcare assistance and adopt targeted universalism.

Unintended consequences

As already identified, increasing co-payments diminish the welfare gains of insurance. Validation of needs is a partial solution, but depends on tight control in quality and in transparency of information that is costly and difficult to obtain. However, validation of needs raises the problem that individuals can deliberately avoid accumulating savings during their lifetime (strategic impoverishment) so that they become eligible for assistance (Cremer et al. 2012). The inclusion of risk-adjusted premiums might alleviate this problem by producing incentives for each generational cohort, reducing the need for inter-temporal compensation. Finally, risk-adjusted premiums provide incentives for efficiency in the supply of health services, although they also raise concerns about risk selection.

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5.3 Supply-side market failure: issues and options

5.3.1 Transaction costs

Problem

Transaction costs are “costs of market transactions” or costs incurred when participating in a market (Coase, 1960). Transaction costs include (Coase, 1960):

- search and information costs associated with initiating and establishing contact (with an insurer on the demand side, or with a service provider on the supply side);
- bargaining costs of negotiating and signing of a contract; and
- policing and enforcement costs to ensure contracted parties honour the terms of contracts (e.g. validating healthcare needs of consumers) and taking action if they don't.

The affordability and sustainability of an insurance market depends, to a certain extent, on reasonably low transaction costs (Grignon & Bernier, 2012; Paolucci et al., 2015). In an insurance model catering particularly for chronic health care conditions one of the most important and potentially burdensome transaction costs would be policing and enforcement costs. The information asymmetries that exist mean that healthcare, community care and social care needs would need to be verified. Doing so can be complex and costly, contributing to transaction costs, and exposing insurance providers to moral hazard if ignored.

The existence of transaction costs reduces the incentive for insurance providers to enter into the market. If these costs are significantly high, health insurers might not be able to generate enough revenue to subsidise insurance contracts, and the market would not exist. As a consequence, the potential welfare gains that could be derived by an insurance market would go unrealised.

Solution

Transaction costs are hidden costs that can result from information asymmetry or imperfect information (even if symmetric). To avoid or reduce transaction costs, strict guidelines can be implemented regarding the transparency and dissemination of information between different parties (insurers, providers, consumers and payers), and a set of clear criteria established to validate health needs.

Unintended consequences

The implementation of strict guidelines with transparency of information between payer, health insurer and health providers requires a major regulatory effort to control quality of provision and performance and cost accountability.

5.3.2 Correlated risks

Problem

To achieve welfare gains, an insurance market relies upon the transfer of risk from risk-averse to risk-neutral agents. This means that risk-averse individuals are needed to purchase insurance, while risk-neutral insurers (at least, less risk-averse than individuals) are needed as providers. Individuals avoid the risk of loss, while insurers carry the risk by amortising over a large number of insured individuals. This spreading of risk on the supply side is based on the assumption that each individual's risk (in this situation, of needing healthcare provision) is uncorrelated or independent. Correlated risks are those that are linked by an event, such as a natural disaster, that causes a large population of insured individuals to need healthcare at a point in time at the expense of the insurer (Kunreuther et al., 2013).

A sustainable, competitive insurance market requires uncorrelated risk among the insured population.

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However, an insurer needs to take into account not only the cost of care and risk for current cohorts but for insured populations in future cohorts.

With chronic diseases, temporal factors can correlate with the risk of a cohort. For example, medical and technical innovations will influence the future prevalence of chronic conditions, and therefore the expected healthcare need and cost. Similarly, ageing and life expectancy influence the prevalence of chronic conditions and the subsequent costs associated with healthcare needs. This means that the probability of becoming a high- or low-risk individual is correlated with time. This correlated risk limits health insurers' ability to adequately pool and account for both intra- and intergenerational risks, threatening their long-term financial sustainability.

If risks are correlated within the population and the cohorts, expanding coverage to more individuals does not reduce risk, and insurers will therefore lack incentives to participate in the market. Insurers remaining in the market will be forced to supply insurance packages with either higher premiums or reduced quantity and quality of healthcare services, limiting any potential welfare gains.

Solving the inter-temporal issue is more important in considering a universal health insurance market focussed on chronic health conditions than for other insurance markets. The reason is that the welfare gains for a chronic care insurance market increase in time for individuals. In a sense, a solution to this problem would equate to insuring the insurers with respect to the extent of loss.

Solution

Commercial products such as longevity bonds or life insurance can be used to transfer risk to investors and protect against correlated risks. (Ergas and Paolucci, 2011).

Unintended consequences

The unintended consequences of financing healthcare through longevity bonds or life insurance schemes are related to those of co-payments. Transferring risk and responsibility to the demand side reduces incentives for efficiency on the supply side, and at the same time lowers the welfare gain derived from insurance. For that reason, it is preferable to maintain risk and financial responsibility in the supply of health services. As a consequence, the design of the reimbursement scheme to healthcare, residential, social and community providers becomes more important than in other markets.

5.3.3 Risk aversion

Problem

Risk aversion is when an insurer is reluctant to take on the uncertainty of risk associated with providing healthcare cover for consumers. This occurs if individuals are deemed at high risk of needing healthcare for chronic conditions, or if the potential costs of healthcare are thought to be too expensive.

The aim of an insurance market is to transfer risks related to the cost of healthcare from individuals to health insurers. To realise the welfare gains available through an insurance market, health insurers need to predict the risk probability for the insured population and the potential extent of loss. However, with healthcare expenditure increasing, the extent of loss for an insured individual who might need chronic care is difficult to predict. This uncertainty can make insurers risk averse rather than risk neutral, which diminishes the potential welfare gains.

For risk-averse health insurers to continue participating in such a market either higher premiums need to be imposed on consumers or the quantity and quality of healthcare provision made available to those insured will be reduced. For example, health insurers might limit the coverage to a fixed amount so that the extent of loss is controlled. The financial risk would then be transferred back to individuals, devaluing the insurance (Brown & Finkelstein, 2007).

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Although there is a close relationship between correlated risks and risk aversion, it is important to distinguish them. Correlated risks relate to the need to establish cross-subsidies in each period for insured individuals of different cohorts, while risk aversion in health insurers relates to their attitude towards risk of provision, arising from the issues in determining an adequate premium.

Solution

As with correlated risks, risk aversion can be mitigated against by transferring risk to investors through commercial products such as longevity bonds and life insurance.

Unintended consequences

As mentioned above, transferring risk and responsibility to the demand side reduces incentives for efficiency in the supply side, and at the same time lowers the welfare gain derived from insurance.

5.3.4 Supply-induced demand

Problem

Information asymmetry occurs through healthcare providers being more knowledgeable than payers and consumers regarding the health needs of an individual. Without being held responsible for their actions, healthcare service providers can create supply-induced demand. Supply-induced demand is when healthcare providers take advantage of the information asymmetry, creating unnecessary demand for their services for their own economic gain (McGuire, 2000). Under fee-for-service reimbursement schemes, healthcare providers can be incentivised to supply a greater amount of services than required. This supply-induced demand creates inefficiency in the provision of healthcare.

When the amount of healthcare provided is more than needed, the marginal cost of provision becomes greater than the marginal benefit (ideally, the marginal costs of healthcare should equal marginal benefits). The inefficiency introduced by supply-induced demand means that the economic gains going to healthcare providers are offset by reductions in the welfare that healthcare consumers enjoy. As a result the cost of healthcare increases, and the quantity and quality of healthcare services offered to insured individuals can be compromised.

Solution

Supply-induced demand can be ameliorated by funding healthcare service providers using capitation payment models. Capitation payment remunerates healthcare providers with a fixed payment for each healthcare consumer, ensuring that providers are incentivised to deliver healthcare as efficiently as possible. Any savings made by delivering healthcare at a cost cheaper than the capitation payment itself would remain with the provider as a financial benefit (Van de Ven & Ellis, 2000). This creates efficiency in the market of healthcare provision, driving costs down, so that health insurers are able to contract providers who offer both quality and efficiency, with the benefits being passed on to the consumer in the form of welfare gains.

Unintended consequences

Although capitated payments provide incentives for efficiency, they introduce the problem of risk selection. Because insurers benefit from their savings, and they have private information on the expected cost of each individual, they have incentives to attract profitable individuals and deter unprofitable ones. Risk adjustment can reduce risk selection incentives. However, risk selection incentives exist because of the asymmetries of information. Only a perfect risk adjustment formula in which the payer sets the reimbursement to the insurer using the same level and quality of information that the insurer holds, would the problem of risk selection be completely avoided. Nonetheless, there is a consensus in the health economics literature that the perfect capitation formula cannot be reached (Van de Ven and Ellis, 2000).

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5.3.5 Risk selection and sequelae: cream skimming, dumping and skimping

Problem

There is heterogeneity of risk in the population; individuals have different risks of suffering from chronic conditions and levels of healthcare need, based on their current health status and lifestyles. Risk selection can occur at two levels: at the insurer level, when insurers decide to accept or reject an individual's application for an insurance contract, and at the provider level, when healthcare providers select already insured individuals for coverage or service provision based on their level of risk.

If insurers' reimbursement for healthcare is independent of the cost of provision (e.g., capitation) they can practise risk selection (Van de Ven & Ellis, 2000). Similarly, if healthcare providers receive a fixed amount or budget in order to provide healthcare to an insured individual, individuals with low healthcare need, who will attract fewer expenses and thus be more profitable, can be risk selected in preference to individuals with high healthcare need, who will incur more expenses and likely be unprofitable. Both of these scenarios can result in individuals at low risk of chronic conditions or low healthcare needs being selected by both insurers and providers (cream skimming), while individuals at high risk of chronic conditions and having high healthcare need are avoided (dumping) (Ellis, 1998).

Another form of risk selection, skimping, can occur not directly due to health risk but due to geography. Health insurers and healthcare providers usually find it less profitable to service populations in regional and remote communities, and therefore offer lower quantity and poorer quality services to these areas and at greater expense to the payer.

Risk selection leads to the exclusion of high-risk individuals from adequate health insurance (skimping), with health insurers and healthcare service providers competing to enrol low-risk and therefore profitable individuals (Glazer & McGuire, 2000). The provision of services to low-risk consumers who have little need to access healthcare services creates inefficiency, while high-risk individuals are faced with inadequate provision of services (skimping), leading to inequities in access. Healthcare expenditure will rise with little if any welfare gains being achieved.

Solution

To prevent health insurers from cherry-picking whom to enrol, mandatory acceptance of individuals can be introduced without regard to an individual's risk. Dumping, skimping and inefficiency in service provision can be mitigated by risk equalisation or risk-adjusting reimbursement payments to health insurers and healthcare providers based on an individual's need for healthcare (Van de Ven & Ellis, 2000; Van de Ven & Schut, 2007). Risk adjustment can also be used to solve skimping strategies derived from the most difficult or expensive healthcare provision depending on the geographical area.

Unintended consequences

This problem is described in the well-known trade-off between risk selection and efficiency (Newhouse, 1996; Schokkaert et al., 1998). One way to reduce incentives for risk selection is the use of both prospective and concurrent information. A blended payment may consist of a prospective payment plus a concurrent payment that might be based on fee-for-service; an outlier risk sharing as the one implemented in The Netherlands (Schäfer et al., 2010), a risk sharing for high risks formula or any other type of reinsurance in which health insurers pay a premium and are re-insured in the event of having high cost individuals so that they are not willing to risk-select them (Van Barneveld et al., 2001). At the same time, because the problem of risk selection is not fully solved, there is "a potential threat to solidarity, efficiency and quality of care". Moreover, regulators should be aware that "measurement of risk selection is a methodological and data-demanding challenge" (Van Kleef et al., 2013).

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5.3.6 Adverse selection

Problem

The problem of adverse selection is closely related to the problem of self-selection in the demand for chronic healthcare insurance, and to the risk selection problem in the supply of such insurance. Adverse selection refers to the situation in which health insurers anticipate individuals' choices, offering a low-coverage package that might be insufficient for many chronic care patients and a high-coverage package that is too expensive for others, plus intermediate options.

The asymmetry of information between individuals willing to buy health care insurance focussed on chronic health care, and health insurers, underpins the problem of adverse selection. In order to establish differing packages in response to the range of risks that individuals present, health insurers need to aggregate risk over a pool of individuals. When the risk pool is not the result of perfect competition, not all insurers offer break-even packages. One or more insurers offering more attractive coverage in order to enrol more low-risk individuals can deplete other insurers' risk pools, significantly increasing their costs, for example, for those insurers offering a package including partial community or residential care for high-risk individuals.

As a result, adverse selection reduces incentives for offering large coverage packages. These become too expensive for high-risk people with chronic health conditions, who then remain uninsured. At the same time, with adverse selection, insurers are reluctant to compete on price. Brown and Finkelstein (2007 and 2009) provided evidence of lack of price competition in the long-term care insurance market, with prices substantially greater than that of the break-even contract, and with differences in prices by gender not translated into coverage.

Solution

Mandatory acceptance of individuals by health insurers, together with a mandated minimum basket of health and social services, ensures equity and universality of health insurance for chronic disease care and the whole population. Quality of care standards are required and improved quality and transparency of information on the coverage and qualities (performance) to enable effective price and quality competition.

Unintended consequence

Although mandatory acceptance of individuals helps solve the problem of adverse selection, health insurers' lack of choice reduces their incentives to participate in a health insurance market focused on chronic care. At the same time, guidelines on quality of care standards and transparency of information are costly and difficult to control and implement.

5.4 Summary

Welfare gains can be derived from the provision of universal health insurance contracts with a particular focus on chronic health care. However, market failures in the demand and supply prevent this market from arising spontaneously. Many of these failures are the result of information asymmetries between demand and supply and between the health insurer and the health provider. Hence, intervention from the public sector and government, in tandem with restructuring of public funding to create symmetry of information and incentives for coverage, is required to avoid the existence of uninsured individuals at financial risk.

To avoid market failure in the demand, one possibility is to implement a mandatory health insurance contract designed to provide particularly for chronic health care. This could be financed through public subsidies, taxes, or mandatory social contributions that guarantee the existence of cross-subsidies between low risk and high-risk individuals; rich individuals would subsidise high-risk or poor individuals. Regulation and

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guidelines would be needed to control provision, the quality of that provision, and access for individuals in need (because of their income level or health status). The definition of the minimum basket of services would necessarily include all clinically needed services and prevention strategies in the treatment for people with chronic health conditions and also the recommended social care, but should avoid the inclusion of services that the insurance market can provide as optional or luxury services. Because of the moral hazard incentives, co-payments would be required to transfer risk (at least partially) to individuals. At the same time, the validation of needs for health service provision and public subsidies to individuals after means tests improve the incentives for efficiency in the demand. However, these are not sufficient to remedy the present situation of high fragmentation of care and poor equity of access to preventive as well as curative care. They remove some obstacles but simultaneously create other problems with respect to other incentives in the market.

To avoid market failure in the supply, the establishment of strict guidelines, together with mandatory acceptance of any individual, would help to control the quality of healthcare provision and the performance of health providers. To mitigate the problems of correlated risks and risk aversion, mandatory longevity bonds or life insurance are appropriate. It is crucial to find the right incentives to provide healthcare efficiently; capitated payments give incentive for efficiency, while risk adjustment reduces incentives for risk selection. However, as in the case of the demand, none of these measures can fully simultaneously solve the problems arising from all market failures at the same time, and all involve trade-offs. Hence, to design a universal health insurance market that caters specifically and particularly for chronic health care, the trade-offs between market failures must be carefully analysed in order to find the right equilibrium between the main goals of efficiency and equity.

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6. Universal and sustainable health insurance focusing on chronic care

Funding arrangements for health care are central to the challenge to re-orient Australian health arrangements that have been focussed on acute care into arrangements more attuned to the contemporary health care need for chronic care. Possibilities for policy reform have been considered and the centrality of health funding policy and arrangements emphasised.

There is considerable evidence and discussion about major aspects of this challenge, particularly:

- The prevalence rates of chronic health conditions in the population in Australia;
- the extent to which risk factors for chronic health conditions are amenable to prevention and early intervention;
- the extent to which the impact and burden of chronic health conditions can be reduced through access to appropriate health care; and,
- the health, social and economic impacts of the lack of risk management, feasible prevention and early intervention; and inadequate health management in Australia's current health policies.

Consideration of the international strategies that have been applied to the challenge of the growing prevalence of chronic health conditions in developed and developing countries, the evidence of effectiveness of new approaches to funding arrangements; and the particular structure and context of Australia's health funding arrangements underpin the options for improved funding arrangements that are presented in this report.

This report proposes that Australia will best meet the challenge of chronic care through a universal integrated health insurance framework predicated on affordability, efficiency, and equity. Such a framework must provide financial risk protection for all individuals, deliver efficient care (not only healthcare, social care and community care, but preventive care and public health), and be financially sustainable for health insurers, healthcare service providers and society. Efficient allocation of resources and provision of services should produce savings and avoid future costs by improving health outcomes and delaying the onset of chronic conditions.

In chapter 3 we showed how the Australian health system is challenged by increasing health expenditures and the inefficiencies derived from significant duplication of insurance and huge fragmentation of care. Then, in chapter 4, we examined international experiences and lessons, and the market failures that prevent efficient insurance developing spontaneously. We set out the options for and barriers to universal insurance to meet chronic care needs in chapter 5.

In chapter 6, we:

- outline the essential principles of a universal and sustainable health insurance market designed to address chronic care needs within the population and the components needed for its development;
- present three options (models) for a health insurance system designed to provide for chronic health conditions: a purely public health insurance model, a model of mandatory health insurance with highly private funding, and a blended model for the health insurance market, publicly funded, in which both public and private insurers compete;
- compare and contrast the potential of each model for application in Australia.

A fourth option, the 'do-nothing' strategy, is the continuation of the current and long-standing discontinuities in financing and healthcare delivery; increasing health expenditures are funded with increased taxes, with a corresponding opportunity cost to the rest of the Australian economy and community. This paper has been developed to demonstrate that this option is not in Australia's best interests, on health, economic or social grounds.

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6.1 Principles and essential components of a health insurance market designed to provide for chronic health conditions

Van de Ven et al. (2013) and Paolucci et al. (2015) outlined the conditions under which a competitive, efficient and affordable health insurance market is feasible. Van de Ven et al. reviewed the situation in Belgium, Germany, Israel, The Netherlands and Switzerland after the health reforms of recent decades. They identified and evaluated preconditions for the existence of a regulated competitive health insurance market. As not all preconditions can be achieved simultaneously, they pointed to the need for a trade-off between the goals of efficiency and affordability. More recently, Paolucci et al., in a precursor of work for this report, examined the process of ageing in Australia and proposed the development of mandatory aged care insurance.

We adapt the preconditions identified by Van de Ven et al. (2013) to the Australian environment described by Paolucci et al. (2015) to propose the principles and foundation components for the development of a regulated competitive health insurance market for Australia in which chronic care is specifically included.

6.1.1 Principles

Free consumer choice of insurers and service providers

A competitive insurance market means individuals are free to choose their insurer (Enthoven, 1978). In an insurance market designed to provide for chronic health care, that means that individuals should be able to choose between insurance contracts that include at least the basic basket of chronic care services – health, community, residential and social care provision – and contracts with basic and optional coverage. Consumers should also have some (necessarily limited) choice of service providers.

Free insurer choice of service provider and contract structure

To promote efficiency, insurers must be able to contract and organise the provision of integrated chronic care in such a way that they are responsible for their decisions and their health expenditures. Because of the insurance contract, insurers bear the financial risk of providing all the care included in the basic basket of services (or the scheme offered with optional coverage), requiring that an efficient and competitive market for care provision must exist.

Market transparency

For consumers to be free to choose a provider, they must have access to and be able to easily manage all relevant information. Market transparency means clear and understandable information on insurance packages (basic and optional), their price (whether co-payments or limits to the coverage are included and their extent), and the quality of service provision to chronic patients.

Guaranteed access to basic care

A basic basket of services (the safety net) is essential. Basic coverage has to be mandatory and accessible universally, no matter the geographical area in which the individual lives. Otherwise, there are incentives to avoid cross-subsidies (e.g., through moral hazard in the demand), or to avoid or reject some individuals (e.g., through risk selection in the supply), and welfare gains are diminished or eliminated. Health insurers must accept individuals who choose their product, regardless of whether the individual suffers any preconditions.

Efficiency

Price competition provides incentives for efficient insurance provision. Those incentives can be articulated through a reimbursement schedule to providers in the chronic care insurance market, provided that the reimbursement schedule is set to promote incentives for efficiency in the market while avoiding (or reducing) the incentives for insurers to practise risk selection.

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Equity/cross-subsidisation

Competitive insurance markets are based on cross-subsidies from some individuals to others; those with no need (low risk and/or high income) subsidise those individuals in need (high risk and/or low income). All participants in chronic care insurance must contribute to the insurance scheme basic coverage.

Sustainable financing

A competitive insurance market designed to provide for chronic health care within the population must be financially sustainable. This means it has to maximise intergenerational equity, so that the contributions of younger and/or healthier consumers, whose need for care will arise years or decades into the future, are not unfairly financing current chronic health care needs.

6.1.2 Essential components

A competitive market for insurers

For the individual to be able to freely choose an insurer, a sufficient number of companies must compete in the market. This is especially important given the specificities of chronic care and the breadth of basic services required to provide for chronic health conditions. With widely differing services included in the insurance contract, health insurers might need to deal with many service providers who compete even within the same network. This might result in the vertical integration of entire networks of health and social care provision (Williamson, 1971), as Van de Ven et al. (2013) noted in the case of insurers with full financial responsibility for the provision of care for a determined population or set of individuals. (Note that ensuring a sufficient number of insurers, and therefore competition, in some rural and remote areas might be impossible. Such geographical areas will need economic incentives that guarantee at least one insurer and provider with minimum level of quality.)

Entry or exit barriers in the market must be negligible or removed so there can be price competition and the threat of entry of new insurers is credible. Barriers to entry include sunk costs and lack of access to the latest technology, but also government subsidies for some providers (e.g., public hospitals) and not others (Van de Ven et al., 2013). That type of restricted subsidy effectively represents anti-competitive behaviour and promotes incentives for inefficiency in the market. A contestable market for chronic care insurance means that all insurers should compete on price and use the same level of technology in the long run. If only one of the insurers is able to contract the provider with the best technology in the market, that insurer will be able to lower the price and make all the remaining insurers exit the market. . In the short run, however, competition leads to innovations in the search for efficient and integrated provision of care for chronic patients.

In a competitive insurance market, price is equal to marginal costs, and insurers can offer a break-even contract. To lower the price, health insurers need to lower costs as much as possible. That cost of provision depends on the health, social, community or home care they hire in their network. As a consequence, regulation in the chronic care insurance market should allow insurers to contract with providers freely. In the search for efficiency in service provision, insurers should be explicit about the terms of contract (e.g., length, services that they should provide, when and to whom, and the quality of provision). Freedom to contract providers is especially important in the chronic care insurance market due to the need to – as the CCM, KPPM and Ham (2010) recommend – integrate care from different providers, including informal caregivers and GPs with a central role in coordinating care, and not only primary with secondary or hospital care but whenever possible social, community and home care.

Transparent and accessible information for consumers and insurers

The information available for consumers should be “relevant, valid, reliable, objective, transparent and easily

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understandable, and must sufficiently discriminate the best from the worst providers” (Fung et al., 2008; Kolstad & Chernew, 2008; Robinowitz & Dudley, 2006). In general, individuals should be able to easily find information on their insurers and the health and social care providers contracted by their insurers so that there is competition in the market and they can choose insurance contracts that suit their risks, preferences and budgets, taking into account quality and prices. If individuals could observe prices and baskets of services but not performance or quality, insurers would have incentives to risk-select individuals through the skimping strategy mentioned in chapter 5 (Glazer & McGuire, 2000). In order to achieve such transparency, regulation has to promote adequate collection of information from all health and social care providers within the insurers’ networks.

In principle, the more information available to individuals, the better. However, if individuals are unable to process that information correctly, too much information can confuse them and distort the competitive market (Iyengar & Lepper, 2000), given that the aim of transparent information is to guarantee the free choice of individuals with relevant information in a market with price competition between health insurers (taking into account quality of performance). Van de Ven et al. (2013) showed how reducing the number of insurance schemes with standard packages could help to meet the balance between too little and too much information, although it would also reduce freedom of choice. This trade-off is especially important in the case of chronic health care, in which many providers necessarily are involved. On one hand, it is easier to measure and report on the quality of health providers separately. On the other hand, insurance schemes designed for chronic care need to integrate information from many different types of providers (health, social, residential and community care).

Another reason why information and competition on price (and quality) is important in insurance framework designed to provide for chronic health conditions is because consumers are risk averse. We have mentioned that the welfare gains from insurance stem precisely from differences between insured individuals and insurers in preferences about risks. In a chronic care insurance market without an acceptable level of price competition, insurers have incentives to use asymmetries of information to attract profitable individuals and make them even more profitable by increasing their premiums (or co-payments) or adding expensive or unnecessary optional services to the coverage, taking advantage of their risk aversion. Price competition with transparent information in the chronic care insurance market resolves that situation.

Imperfect information might deter insurers from participating in the chronic care insurance market, especially in a universal market in which insurers have to accept any individual, no matter their risk (observable or unobservable). Unpredictability in the extent of the loss covered means that with increasing healthcare expenditures, health insurers might become risk averse and decrease their participation in the market and hence its welfare gains. A competitive market needs insurers to be able to calculate appropriately the expected cost of provision of insured schemes and the premiums they should charge to individuals. In order to facilitate that and promote the participation of insurers in the competitive market, regulation must provide for universal insurance contract standards and for periodical determination of expected costs. Again, this regulation is more important when dealing with insurance designed for chronic health conditions because of the duration of the conditions, the common need for long-term care through a mix of providers, and the potential progressive decrease in the quality of life of individuals with chronic health conditions.

Mandatory enrolment

Participation in the chronic care insurance market, at least for the basic basket of services, should be mandatory. Consumers can behave with limited rationality and with myopic preferences because they do not accurately predict their probability of needing services for chronic health conditions or take their needs over time into account. A mandatory scheme providing for essential basic coverage limits the consumer’s choice

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to that of a health insurer and whether to buy optional coverage. In addition, mandatory insurance removes the risk of non-contributing individuals (Enthoven, 1988; Van de Ven et al., 2013) making the insurance market financially unsustainable or unaffordable for those contributing and for the insurers.

Regulated standard packages and quality

Establishment of a competitive market for chronic care insurance requires the provision of a safety net basket of services. The basic basket of services should include all necessary clinical care, and also essential home, community, residential and social care based on assessed need. Currently, most health financing arrangements only include healthcare services. The provision of a competitive health insurance framework designed for chronic health conditions requires that other types of care are included otherwise individuals with chronic health conditions will remain at financial risk and the welfare gains of insurance will not be obtained.

Regulation should provide for a minimum level of quality in the provision of basic services, but this might not be easy to observe. Quality is crucial to the provision of chronic care because of the long term nature of chronic health conditions; therefore it is important to provide appropriate quality of care to reap future economic savings and improvements in quality of life. That quality must be observable to individuals when they choose a chronic care insurer. The essential element for effective quality supervision is transparent information.

The length of contracts should be regulated; if individuals can change insurance plans at any time, they will adapt their plan to their needs with almost perfect information on their health status. This would prevent health insurers calculating a fair premium for optional coverage, and excessive administrative costs would make the insurance policy more expensive. Conversely, if individuals could never change plans, health insurers would have no incentive to adapt their services to individuals' preferences. The complexity of hiring and planning care from different chronic care providers necessitates that contracts are long enough for insurers to integrate care adequately but not so long that they feel no competitive pressure to adapt to individuals' preferences.

Integrated contracts and care

The coordination of care by insurers in a competitive market needs to be founded on analysis of the health conditions (morbidity) and health and social needs in order to efficiently allocate resources. Primary care should play a decisive role in coordinated care teams, which should include all types of care under an integrated model, as mentioned in the CCM and KPPM, and preventive care and disease management programs that increase the quality of life of individuals and reduce the future need for services.

Regulation should promote the creation of integrated networks of providers through allowing free contracting from insurers in the search for efficiency, with the possibility of vertical integration so as to reduce transaction costs. A financially sustainable chronic care insurance market must include preventive care, with information on lifestyles and disease management programs for chronic patients, in the basic basket of services. This would put patient needs and quality of life at the centre of the care provision model, and take advantage of the investment in public health programs; it must be incorporated into the reimbursement schedule to chronic care insurers.

Guidelines, measurement and reporting of performance

Provision of a minimum level of quality in the safety net basket of services should be monitored and measured, for instance, through patient satisfaction or waiting times. Measurement should identify the provision of the appropriate level of care to meet the assessed needs of individuals with chronic health conditions, and of provision of information and interventions to populations to reduce and prevent the development of chronic health conditions, in order to prevent higher chronic care expenditure for insurers and to prevent to the extent possible progressive decrease in the quality of life of individuals with chronic health conditions.

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Guidelines will be required for the provision of different types of chronic care services (such as residential care or community care) to individuals based on assessed need, and monitoring and reporting would be required on the performance of different providers using clinical and quality-of-life measures, waiting times, patient satisfaction, and chronic patients' levels of disease self-management and self-confidence.

Regulation of competition and price

Establishment of a competitive health insurance framework designed for chronic health conditions will require regulation that explicitly promotes price competition with transparent information on the quality of the services insured. Brown and Finkelstein (2007 and 2009) found evidence of a lack of price competition, due to adverse selection, in the long-term care insurance market: with prices substantially above the break-even contract, and also enormous differences in prices of insurance schedules offered to male and female consumers. The chronic care insurance market has many similarities to the long-term care insurance market, as long-term care is one of the pillars of chronic care, indicating that effective regulation of competition in the chronic care insurance market is essential, including provisions regarding anti-competitive behaviour such as mergers or acquisitions among insurers that might reduce the desired level of competition.

Risk adjustment and blended payment options

Efficiency is best achieved through use of a reimbursement scheme based on prospective capitated payments (based on expected costs), in which health providers are responsible for healthcare costs. This requires that the risk of adverse selection is addressed. Requiring insurers to accept any individual and to provide a guaranteed level of quality of care would be essential. However, skimping strategies in which insurers adjust qualities of services to attract profitable enrollees and deter others would still be possible. Risk selection incentives arise because of the asymmetry of information used to calculate the expected cost by payer and insurer. Risk adjustment arrangements would provide for adequacy of information between payer and insurer, and lower incentives for risk selection by insurers (Van de Ven et al., 2003; Van de Ven et al., 2007, Enthoven & Van de Ven, 2007; Van de Ven et al., 2004; Van Kleef, et al., 2008). However, no perfect risk adjustment formula exists, so the trade-off between risk selection and efficiency remains (Van de Ven & Ellis, 2000).

Risk selection incentives are also avoided through modifying the reimbursement schedule towards mixed or blended payment systems, such as hybrid risk adjustment (Lamers et al., 2003; García-Goñi et al., 2009), used for outliers or those individuals at risk of adverse selection. This type of reimbursement schedule has great potential for the chronic care insurance market, because individuals with chronic health conditions tend to be among the most expensive individuals for insurers and their needs and costs are mostly predictable. Blended payments are specifically recommended for reimbursements to primary care doctors, including incentives for preventive care and disease management programs to encourage home care, improve the continuum of care, and team-oriented integrated chronic care.

Incentives for innovation and efficiency

The proper functioning of a competitive insurance market requires that both consumers and suppliers bear some costs (Van de Ven et al., 2013). Consumers should bear the cost of paying the premium (directly, through taxes or through social contributions) for the insurance contract for the basic coverage. However, in a competitive market, individuals should contribute further to obtain additional coverage. This provides suppliers with incentives to provide the highest-quality insurance contract for additional coverage at minimum cost for the individual, together with incentives to innovate in healthcare provision. At the same time, the risks borne by the suppliers should be reflected in the reimbursement schedule. Without incentives for efficiency, the market is uncompetitive. For this reason, capitated payment arrangements together with blended or hybrid risk adjustment schemes for different types of providers, provide incentives for efficient provision of

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care. This is especially relevant in primary care, with blended payment arrangements comprising direct and fee for service reimbursement promoting efficient provision of preventive care and disease management programs. The extent of loss in chronic care insurance makes this element more important than in other care insurance markets. The complexity in the mix of care means that without the right incentives for efficiency and the appropriate level of care integration, chronic care cost will grow exponentially in coming decades making this arrangement unsustainable.

Sustainable financing

To be sustainable, a competitive chronic care insurance market also must solve the intergenerational equity problem in the choice between funded versus PAYG systems (section 5.2.6), that is, determining which cohort pays for current care provision (the one in need under the funded model, or current taxpayers or contributors under the PAYG system). A funded system makes the first cohort of chronic care users worse off since they have no opportunity to contribute in a competitive market and are therefore at financial risk, and does not enable universal insurance for basic coverage. PAYG lacks incentives for efficiency due to moral hazard (section 5.2.3), but this can be at least partially addressed with co-payments (Baldini & Beltrametti, 2006).

Financial sustainability of the competitive chronic care insurance market requires contributions from all individuals for basic coverage, whether through direct payments, taxes or social contributions. Co-payments can play a role, but should take into account individual health need and income. Once basic coverage is financed for all individuals, additional coverage can be financed with a greater proportion of co-payments. Additional mandatory income-related social contributions could be implemented to specifically finance social care.

6.2 Models of universal healthcare insurance incorporating chronic care

The goal of this report is to provide options for an Australian health insurance market designed to provide for chronic health care. The system must be universal, sustainable, affordable, provide welfare gains to society, and an appropriate equilibrium between efficiency and equity. In this section we discuss three options: a purely public health insurance system within the NHS, financed mainly through taxes; mandatory health insurance with mostly private funding; and a blended model, publicly funded, in which both public and private insurers compete.

6.2.1 Purely public health insurance

Equity and universal coverage

Equity is guaranteed in a purely public health insurance system. This type of system is financed mainly through taxes (although out-of-pocket payments and co-payments can contribute). Because paying income taxes is mandatory, the entire population is covered under the public insurance scheme, and the entire population finances the system (with contributions varying by income).

This health insurance system has no link (without co-payments – that is, fully financed through taxes) between health need and contributions, and individuals have the same access to health services based on their need. There are, therefore, cross-subsidies between low-risk and high-risk individuals, and between individuals with high and low incomes. Importantly, universal coverage has to be defined through a basket of services (the safety net) that must include chronic care services, prevention and disease management programs, and (at least partially) social care. If these services were not included, the welfare gains from the universal health insurance would be diminished.

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Simplicity; no risk selection

A purely public health insurance system does not provide individuals with the choice of health insurer and consequently information transparency is not needed other than for the regulator to control the quality of care. At the same time, mandatory enrolment removes the problem of risks arising from individuals with different willingness to enrol. It requires no open enrolment period or any calculations relating to length of health insurance contracts as the entire population is insured permanently. Consequently, the pool of insured individuals is large enough to facilitate the prediction of health expenditures given the current level of technology. At the same time, this model avoids the problem of the health insurer becoming risk averse and uses cross-subsidies that eliminate risk selection incentives.

Lack of choice and competition

A purely public insurance model lacks the competition that promotes efficiency. At the same time, the public insurer needs to make sure that the entire population has access to health providers, even in remote areas (including primary care, speciality care and hospital care, but also chronic disease management programs, preventive care and social care). It is important to note that within the pure public option, coverage and access are more important than the level of competition between providers. That will influence the type of contracts and reimbursements between the public insurer and health providers within its network, as we show below.

Regulation

Regulation is required in the purely public health insurance model, to provide for the performance of both the health insurer and the quality of services provided by health providers, as well as for the information that health providers deliver to the payer and to individuals. The regulator in the purely public insurance model would determine the content of the basic basket of services, and the quality of those services, and the provision of those services for the entire population no matter their location. At the same time, the regulator would be responsible for informing individuals about the performance of the health insurer.

No incentives for efficiency

A range of reimbursement schemes can be used to pay health providers. Annex 1 presents the basic functioning of capitated payments with risk adjustment, fee for service, wages, blended payments, or pay for performance. However, typically, a pure public health insurance model in which risk selection is fully avoided uses mostly fee for service at the different levels of provision, as in primary care, ambulatory care, inpatient care, or wages so as to guarantee access for the entire population. Because health providers are not responsible for the healthcare costs associated with their provision of care, this type of reimbursement to health providers lacks incentives for efficiency and risks supply-induced demand.

The purely public health insurance model has to deal with moral hazard, because individuals have no incentives to control demand and health providers have no incentives to control supply. Although this negative effect could be diminished somewhat with co-payments, this model precludes substantial co-payments so as to guarantee universal coverage and equal access.

Moral hazard

As discussed earlier, the effect of lack of incentives for efficiency in demand could be diminished by allowing individuals to pay some co-payments. However, this is the typical trade-off between efficiency and equity: greater co-payments reduce the moral hazard problems but reduce the welfare gain derived from insurance because a proportion of the financial risk is transferred to individuals, no matter their income level. We assume that in the purely public health system optional co-payments would have to be low enough to make access to care affordable to everyone but high enough to significantly reduce the effect of moral hazard.

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Low sustainability

Lack of incentives for efficiency in the supply of healthcare provision in this system has two ramifications for sustainability: reimbursement to health providers is mostly based on fee for service and health professionals' wages, and the lack of competition in the health insurance market presents no incentive for efficiency. The ongoing increase in per capita health expenditure cannot be halted, and health expenditures translate into higher tax rates with their growing opportunity cost. Hence, the sustainability of this model is at risk. However, efficiency gains derived from the integration of care and the inclusion of social care, preventive strategies and chronic disease management programs in the basic basket of services covered, compared to the current model, would improve sustainability somewhat.

6.2.2 The current system, the public health insurance option, and sustainability

The purely public health insurance option presented in section 6.2.1 is an extreme version of the current Australian health system. We have added chronic care services, social care, preventive strategies and chronic disease management programs to sensitise the health insurance system to the huge challenge of chronicity and ageing in the Australian population. At the same time, integrated care is necessary to avoid the huge fragmentation of care that currently exists. This model also eliminates any public subsidy to supplementary private health insurance, as duplication of insurance is a current source for inefficiency in the Australian health insurance market. In the pure public health insurance system, individuals are publicly insured for the coverage described in the universal basic basket of services, but they are not subsidised for any further health insurance. Supplementary health insurance would be privately funded.

The Productivity Commission (2013) has said that if the way in which healthcare is financed and delivered in Australia does not change significantly, the government will have to increase taxes to maintain universal coverage (in this purely public proposal coverage is actually increased), or will have to constrain supply through rationing the provision of healthcare services or other government spending. Hence, both the existing arrangements in Australia and this purely public health insurance model are financially unsustainable without a significant increase in taxes.

6.2.3 Possible modifications to the public insurance model

Section 6.2.1 largely depicts a pure public model of health insurance, and in section 6.2.2 we explained that it and the current system (which it resembles strongly) are financially unsustainable. However, the purely public insurance model can be modified, while retaining its focus on chronic care, to improve sustainability.

The first possible modification involves the insured population's choice of providers. The regulator might allow some kind of competition among private providers to be included in the network of healthcare providers in the public insurance scheme. The regulator would provide guidelines on the services to be provided and their minimum quality. Similarly, health providers must be required to provide information to the public insurer and to the general public to enable choice of health provider.

A second modification to the purely public insurance model would provide for competition between providers, together with the provision of integrated care. Given a public monopoly in the health insurance market, the insurer is able to search for efficiency gains derived from economies of scale in the provision of integrated care to the whole population. International experience shows that a risk-adjusted capitated payment to private providers promotes integrated healthcare provision, including chronic and social care. Also, a blended payment could be implemented with financial incentives for primary care doctors within primary care networks, linked as much as possible to their performance in terms of prevention or chronic disease management programs.

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The third modification relates to the implementation of flexible co-payments and out-of-pocket payments at the point of use. The role of co-payments is to reduce inefficiencies in the demand for healthcare services. However, again, this flexibility in the purely public model is limited by the goal of equity in access. In order to avoid unnecessary demand, however, the regulator should implement a more extensive validation of needs before granting the public subsidy. This becomes extremely important in the case of chronic care services and social care.

The fourth modification involves the definition of universality in the health system. The National Commission of Audit (2014a) proposed to require “higher-income earners to take out private health insurance for basic health services in place of Medicare; and precluding them from accessing the private health insurance rebate”. This would represent a break in universal coverage, requiring a small proportion of population, with high income, to opt out of the public system and forgo any public subsidy related to healthcare provision. The more successful these modifications are in promoting efficient allocation of resources, the lower the need to increase taxes.

Several of these variations are more extensively explained in our private health insurance option with public financing (section 6.2.7). However, it is important to note that within the purely public option, insurance is always public and there is limited room for competition in healthcare provision, for reimbursement schemes designed to improve efficiency, for co-payments, or for the exclusion of individuals from universal coverage.

6.2.4 Mandatory private health insurance

Our second proposal for the development of a universal, sustainable, and affordable health insurance market with special focus on chronic care is a system of mandatory health insurance with mostly private funding. This proposal differs to that described in section 6.2.1 (the purely public insurance model) with respect to the weights assigned to the goals of efficiency and equity in the known trade-off.

This type of mandatory private health insurance system could fund the entire health insurance package, or just the additional section of the basic basket of services containing chronic care, preventive strategies and social care. The first case would follow a similar health insurance model to the one presented in Singapore. In this discussion we focus on the second case, that is, we propose to maintain the current system of health insurance publicly financed through taxes, but make mandatory the purchase of additional private insurance for chronic and social care. We propose premiums, individual medical savings accounts and high co-payments as the main sources of financing this insurance.

Financed through private contributions

This chronic care health system is financed mainly through the contribution of each individual through premiums, a personal medical (chronic and social) savings account, and high co-payments at the point of use. Such a private health insurance market for chronic and social care might not achieve the goal of equity, but it is important to differentiate between equity in access to insurance and equity in access to services. Mandatory enrolment for the chronic and social care package would provide equity in access to chronic and social care insurance because individuals would have to contribute to their own medical (chronic and social) savings account with their income. However, that insurance contract assumes a large proportion of co-payments, so some individuals at high financial risk will be unable to purchase the chronic and social care services they need.

Low moral hazard

High co-payments and the medical savings account establish a clear link between the use and the financing of chronic and social care services. Therefore, the only cross-subsidies from low-risk and high-income individuals

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to high-risk or low-income individuals are those derived from the premium paid during each open enrolment period. As a consequence, the welfare gains associated with universal health insurance in this model are reduced relative to the public insurance scenario (section 6.2.1). At the same time, moral hazard incentives in consumption would be diminished.

Competition and choice

This private insurance model would allow for individuals to freely choose their insurer for chronic and social care. Private insurers could offer a menu of contracts, always including the basic basket of chronic and social care defined by the regulator. This is a positive feature, as it provides incentives for competition in the chronic and social care insurance market. Competition would occur with respect to the quality of services provided, level of co-payments, and the premium. The individual might use funds in his savings account to pay for the premium of the mandatory chronic and social care basic insurance if in economic need (means tested). Because individuals must choose, the regulator should establish guidelines on the information that should be available for individuals regarding health insurers' performance and market transparency.

Incentives for efficiency and integration of care

Mandatory private health insurance for chronic and social care requires an open enrolment period. At the same time, it also requires regulation of the length of insurance contracts to help health insurers predict expected costs and reduce the problem of insurers' attitudes towards risk.

It is important to note that the three different types of contribution affect the insurer differently. First, the money in medical savings accounts accompanies the individual account holder. If the individual does not need to use the funds in the savings account, the insurer has no right to those funds during the period of insurance. When the individual needs to use the savings account funds, they are used to finance the insurer for healthcare provision to the individual in that period. Second, co-payments are used to partially reimburse health providers at the point of use. Thirdly, premiums are always paid directly by the individual to the insurer.

Integration of care would require regulatory guidelines for promotion; competitive pressures should provide incentives to health insurers to offer attractive health and social services arrangements to individuals with chronic health conditions, and potentially to contract with a network of healthcare providers for insured consumers.

Regulation of quality, coverage and information

Because this type of insurance is mandatory, regulation is required to ensure that prevention strategies and chronic disease management programs meet quality guidelines. This also requires regulation, as in the case of the pure public insurance proposal, of the information that health providers must deliver.

Once insurers accept an individual, they are responsible for chronic and social care provision as shown in the contract, no matter the location of the individual. As a result, private health insurers should strive to expand their national network of providers or reimburse (as agreed in a public contract) any health provider. In this model, insurers have incentives to assess individual need for health services in their search for efficiency.

Competition is fundamental to the mandatory private health insurance market. Regulation is required for guidelines that ensure sufficient insurers compete on quality, premiums and co-payments, as well as to ensure that provision and access to health insurance is guaranteed at any location. One option is to offer public insurance in all locations that might compete with other private insurers. In that case, regulation might not need to provide mandatory acceptance by insurers of individuals because individuals would be able to enrol in the public insurance option.

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As in the purely public health insurance model, the regulator is responsible for determining the content of the basic basket of services to be universally covered, including prevention, chronic disease management programs and social care. However, in this case the regulator would not be responsible for the financing of the provision of chronic and social care services, which would be the responsibility of health insurers and individuals under the terms of their insurance contracts.

Possible risk selection

This model of private healthcare insurance assumes the existence of cross-subsidies with negative incentives for risk selection. Private insurers can use customised reimbursement schemes to pay the health provider network of their choice. It is expected that in order to promote incentives for efficiency, they would mostly use capitated payments with risk adjustment. Risk selection incentives might mean that a high proportion of high-risk or low-income individuals would rely on public insurance for chronic and social care. If that is the case, the public insurer would face grave financial risk.

Low sustainability

This is a funded model. As a consequence, the intergenerational problem relates to the first cohort of individuals in this market who would have no time to save funds in their medical savings account.

Although this proposal has incentives for efficiency, as in many private frameworks, it raises important sustainability concerns. First of all, some individuals will be denied chronic and social care services because the co-payments are too high or the funds in their medical savings account too low. That creates an inefficient demand for health services and greater total health expenditure in the long run. This can be understood as an effect of the lower welfare gains derived from insurance. Second, incentives for risk selection (if acceptance is not mandatory) might mean some insurers suffer losses and exit the market. That is expected in a private market, but the public subsidiary health insurance for chronic and social care would inevitably support many of these high-cost individuals and hence incur losses.

Putting together both effects, the quality of health insurance and provision for chronic and social care would be low and the system financially unsustainable. The upward trend in need for chronic and social care in the Australian population means this problem would grow over time.

6.2.5 The current system, the mandatory private model, and sustainability

This proposal is for mandatory chronic and social care insurance, with private funds to be added to the basket of services of universal coverage within the NHS. Because the additional insurance is private, the market requires regulation in several areas:

- the enrolment period, length of contracts, whether there is mandatory acceptance, and the content of the basic coverage
- the transparency of the information the insurers supply to the regulator and individuals so that freedom of choice is effective
- the quality of services relative to the health outcomes of the insured population, and the implementation of preventive strategies and of chronic disease management programs.

Because this would be a private insurance market, providers could be contracted freely and the regulator would not need to intervene beyond ensuring the proper functioning of the market.

The transition from the existing model to this proposed model is not complicated, and relies mostly on the development of regulation. However, this proposal has two main weaknesses that make it financially

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unsustainable: the financial risk for many high risk/low income individuals, and the great incentives for risk selection. The first problem could be ameliorated by following the Productivity Commission's (2013) proposal for a pension loans scheme or private equity release products (such as reverse mortgages, accommodation bond loans, and home reversion schemes). Judicious risk adjustment would reduce incentives for risk selection, as would the application of risk-sharing strategies for unexpected high costs.

6.2.6 Possible modifications to the private insurance model

Mandatory health insurance with private funding for chronic and social care permits several dimensions. The first is enrolment of low-income and high-risk individuals with the public insurer for chronic and social care coverage. One such option is briefly outlined above, involving risk-sharing strategies). For this model, mandatory reinsurance by insurers for high-cost individuals would reduce the risk of the public insurer becoming financially unsustainable and improve the effectiveness of the private insurance option, by enabling more competition in terms of quality, co-payments and premiums in order to attract individuals, and as a consequence, greater incentives for efficiency.

The second possible modification is the implementation of mandatory acceptance. That would partially eliminate dumping incentives, and guarantee contestable markets with freedom of choice for individuals. However, incentives for risk selection would remain, and low-income individuals unable to pay high co-payments would lack access to appropriate health services.

Note that these modifications would result in a hybrid model that approximates the private health insurance option with public financing discussed in the next section (section 6.2.7).

Finally, a third modification to the proposal for mandatory private health insurance with private funding is its expansion beyond chronic and social care to the whole health insurance market. As mentioned above, this would modify the health system to make it more similar to the health insurance system presented in Singapore. Although the Singaporean system seems successful in terms of a low proportion of GDP devoted to health expenditure, it also is based on a high cost share and financial responsibility from individuals.

6.2.7 Mandatory integrated (public & private) health insurance

Our third proposal for Australian healthcare reform, and the model that we consider provides the best balance between equity and efficiency, consists of a mandatory health insurance model with universal coverage for a basic basket of services (safety net), with public financing through taxes but capacity for private financing through co-payments, and with participation of both public and private insurers and health providers.

Equity guaranteed; universal basic coverage

Universal basic coverage would provide equity in individual access to health insurance and health services through a specific basket of services relevant to chronic health conditions, disease management programs and prevention interventions, and to some extent (defined by regulation) residential and nursing care.

Financed by taxes and co-payments

Insurance involves cross-subsidies from some individuals to others in need. This model would provide this through the financing of the health insurance system through taxes, requiring implementation of either a new income tax or a new mandatory social contribution linked to the provision of residential and nurse care. However, our model allows for additional out-of-pocket payments (co-payments) made to either the insurer or the health provider and linked to the provision of care, for example, for visits to a primary care doctor, the prescription of pharmaceuticals, or nursing or residential care.

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Mandatory purchase and insurer acceptance, free choice of insurer

The individual would be able to choose an insurer (public or private) during an open enrolment period set yearly. All insurers would be obliged to offer the basic contract to – and accept – any individual. The insurer would define the level of choice with respect to the health provider (public or private) within a health provider network. Individuals would choose a health insurer for at least the basic basket of services, or would be directly assigned to the public insurer, together with the public subsidy associated with their premium.

In this model, a regulator or central authority, before the open enrolment period, would determine the risk profile for each individual and use that risk profile to calculate the individual's expected health care costs for the enrolment period. That amount would be assigned to each individual in the form of a public subsidy into a health savings account that could only be used to purchase health insurance. Should the individual not need to use the total amount in the account for the purchase of health insurance, the funds would be retained and available for later for out-of-pocket payments for nurse or residential care, or the provision of healthcare following a catastrophic event, on the basis of the contemporary assessment of need.

Complementary insurance funded by co-payments; the opt-out option

Importantly, even with a regulated level of mandatory coverage in the basic basket of services, health insurers would be free to offer complementary health insurance for additional health services, nurse or residential care, subject to the individual making a co-payment. Again, the individual should receive perfect information regarding the scheme of coverage and co-payments for all services in the complementary insurance contract.

In this model there would be no supplementary insurance. The concept of complementary insurance assumes that any individual purchasing the complementary insurance scheme is simultaneously purchasing the basic basket of services from the same insurer (public or private). This represents an opt-out choice from the public system and avoids duplication of insurance.

Regulation in this model would be required to promote the diffusion of information on health providers' and insurers' recent performance so that individuals would be able to take quality of care into account in their insurance decision.

Reduced incentives for moral hazard

This model avoids myopic behaviour (i.e., not purchasing insurance for chronic care), as well as self-selection and the problem of heterogeneity in preferences towards risk. At the same time, the inclusion of co-payments prevents or diminishes the existence of moral hazard. Co-payments could be regulated to depend on the level of care and means-tested. A PAYG system with co-payments, together with the validation of health needs for access to insured healthcare, nursing or residential care, should reduce the intergenerational cost burden.

Competition among insurers and providers

In this model, health insurers would compete to attract (and must accept) individuals; and contracts must include the basic basket of services. Health insurers are therefore responsible for all aspects of the healthcare provision of their insured population. In this market, a public health insurer could be operate in competition with private insurers. .

Health insurers would obtain funds from three sources. Firstly, from public subsidies linked to the health savings account of each individual accepting their health insurance contract. Should the premium for the basic insurance package be greater than the public subsidy to the individual, the individual would pay the difference. Otherwise, the health insurer would only obtain from the health savings account the amount determined in the premium. Secondly, public subsidies would be provided through a new income tax component to improve

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financing for nursing and residential care. Payments for these services would be based on assessed needs of the insured individual, with the insurer partially reimbursed by the central authority for an amount set by regulation in accordance with the insured individual's need. Thirdly, health insurers would receive financing directly from out-of-pocket payments by insured individuals. Regulation could provide for an upper limit on such co-payments by low-income individuals so as to guarantee equity in access to healthcare provision.

With these payment arrangements, health insurers would be responsible for provision of the basic basket of services. These arrangements form a bundled payment for individual care that promotes competition on quality (and co-payments).

In order to compete, insurers would be free to contract health providers of their choice. Therefore, health insurers would be asked to form a network of health providers and publicly advertise that information. Within that network of health providers, the way in which they set the reimbursement to providers would be private information. However, regulation might include some constraints so as to promote integrated and coordinated care and private providers' utilisation of chronic disease management programs and preventive strategies. Specific constraints would regulate the way in which reimbursement is set for private and independent primary care doctors (see below).

Health providers in this model could be either public or private. Any provider, in principle, should be able to provide care to patients insured by any health insurer, public or private. In other words, there should be free competition among insurers in their choice of health providers. However, exclusivity contracts would mean a health provider could only provide healthcare to individuals from a specific health insurer. Otherwise, the provider would be private and independent. Regulation should limit, however, those exclusivity agreements in the case of rural and remote areas where there are few providers of each kind (primary care, specialist care, or hospital care) to maintain equity in access to health services. In those cases, the public insurer should be always allowed to contract with existing providers.

Regulation of quality, coverage, information and costs

Given that the health insurer would be responsible for all the provision of care to an insured individual, the flow of information has to be transparent. Therefore, all health providers (primary care, specialist care and hospital care) would be required to collect and report diagnosis and activity information to the health insurer, and regulation would specify the information that the regulator needed to control healthcare quality and ensure that health activity met the guidelines.

The regulator would not prescribe any type of reimbursement from private health insurers to private health providers, except in the case of primary care. Because the regulator would mandate the implementation of chronic disease management programs and preventative strategies, regulation would dictate, at least partially in a first stage, the way in which private primary care doctors and centres obtained funds from health insurers. Regulation would specify the relationship between the public health insurer and primary care providers. All reimbursement contracts between insurers and primary care providers would be required to specify a blended payment including fee for service and other types of reimbursement, such as premiums for specific priority services, pay-for-performance related to prevention strategies, and incentive fees linked to the implementation of chronic disease management programs. Regulation might set fixed wages (or wages plus incentives) for primary care doctors in some remote areas to promote incentives to provide care in all territories and guarantee equity in access to healthcare. If that became the case, the public insurer would reimburse the fixed wage to the primary care doctor, and that fee would be shared afterwards by other private health insurers active in the same area, weighted by the number of insured individuals.

Regulation should explicitly identify the extent of nursing and residential care that should be part of universal

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coverage and the different levels of need of individuals and its validation. For example, there might be three levels related to expected health needs and costs: only nursing care or home care; residential care with low medical attention; and residential care with extensive medical attention. The regulator might consider informal care and long-term care in those levels of need. To finance these types of care, the regulator should collect the new income tax or social contribution and assign reimbursements to health insurers based on the validated need.

This model would include the ability to use money in health savings accounts to reimburse individuals when their out-of-pocket expenses become unexpectedly large due to a catastrophic event. The regulator would define a catastrophic event. For example, a catastrophic event could be defined as one that causes the real healthcare cost for the individual in a given year to double (or triple, or quadruple) the amount provided in the public subsidy; or be defined by a fixed cost for health care (for instance, AUD\$10,000). Individuals could be allowed to use money in their health savings account for co-payments related to nursing care, home care, or residential care. The regulator could set maximum co-payments for health services, at least for public insurance, and require means testing so as to guarantee equity in access to universal care.

The model is flexible enough to allow for a mechanism of funding (reinsurance) by all health insurers to limit the extent of loss due to catastrophic and unpredictable events in insured individuals. Insurers could pay a premium to the regulator consisting of a proportion (for instance, 5%) of the public subsidy of any insured individual. Those premiums would be used, if needed, to further reimburse health insurers ex post, eliminating incentives for risk selection or reduction in the quality in the care of the insured population that experiences catastrophic events. It would therefore be considered a mixed strategy of ex ante risk adjustment and ex post risk sharing.

Incentives for integration and efficiency

The bundled payment obtained by the health insurer would provide incentives for the integration of care and the right mix of primary care, specialist care and hospital care. However, there would also be freedom for health insurers to look for innovative formulae of coordination and integration of care. For example, these payment arrangements would be expected to promote the creation of multidisciplinary teams in ambulatory care catering for the complicated cases of individuals with several chronic diseases, the evolution of boundary-less hospitals, and a greater level of contact and coordination of care between primary care and hospitals so as to reduce duplication of service provision.

As the bundled payment is comprised of the expected total healthcare cost by the insured individual, the health insurer has incentives to look for efficiency in the provision of services. At the same time, there would be incentives to provide the best value for money in terms of greater quality at a lower premium. Prospective risk adjustment should diminish risk selection through variation in the quality of health services.

Sustainability

This model includes a PAYG funding system with co-payments. High co-payments for aged care (or nursing and residential care) services during the first years of application of this system would reduce the intergenerational cost problem; afterwards, those co-payments would decrease.

The model adds a tax to finance the health insurance market, with the goal of providing social, nurse and residential care within the basic coverage. Although this is in principle an increase of funds devoted to the health and social system, we expect that the new efficiency incentives would slow the rate of increase in health expenditures, thereby producing savings for the population and lower fiscal pressure.

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6.2.8 The current system, the mandatory integrated model, and sustainability

We have identified three main problems for the adaptation of current Australian health financing arrangements to increasing health expenditures associated with the rising incidence of chronic health conditions within the population:

- the enormous fragmentation of care
- the complexity of the hybrid system, involving different state/territory and federal government and a mix of public and private funding and providers
- the duplication of insurance, with half of the population holding private health insurance for some health services included in public insurance.

In proposing a model that solves these problems, we have amalgamated lessons from other countries' experiences, adapted to the Australian context:

- the opt-out option, as implemented partially for public workers in Spain and Chile
- blended payments for the reimbursement of primary care services, as used in Canada with focus on prevention and chronic disease management programs
- the use of risk adjustment in setting reimbursements to health insurers, allowing insurers to contract with health providers with a low level of restrictions, as in The Netherlands, to promote incentives for efficiency, together with a ex post mechanism of funding or reinsurance to avoid incentives for selection for patients with catastrophic events
- a mandatory social contribution for financing long-term care and social services, such as nurse and residential care, with means-tested provision as in Germany
- the evolution in the use of hospitals towards a higher degree of integration with primary care and multidisciplinary groups, the implementation of pay for performance and quality programs, and the means-tested provision and financing of social services and home care (through taxes) in the UK
- the implementation of a medical savings account, as in Singapore.
- the promotion of medical homes to facilitate the functioning of coordinated care teams and the integration of care, as in the USA.

This model differs from the current Australian health financing arrangements in six major ways.

Eliminating duplication of care

Any company willing to participate in this market would offer the basic package to their insured individuals; further more comprehensive insurance would be complementary rather than supplementary. There would, therefore, be no duplication of insurance (and no subsidy for private insurance) and explicit choice to opt out from public insurance.

Providing incentives for efficiency

This model involves a bundled payment that drives economic incentives for efficiency in the provision of chronic care. Incentives for coordination of care are guaranteed, as well as mandatory quality standards at low premiums to attract enrolments.

Promoting competition

Health insurers would have freedom to contract with health providers in order to spur competition. Blended

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payments would include premiums for specific priority services, pay-for-performance related to prevention strategies, and fees derived from the implementation of chronic disease management programs. This strategy would complement the goals and objectives of the Primary Care Networks now established in Australia.

Sharing risk

This model includes another type of blended payment in the form of risk sharing for health insurers to compensate for unexpectedly large costs. This risk sharing can be understood as a mandatory reinsurance contract for all insurers, who would have to pay a regulated premium.

Financing nursing and residential care

This model for an integrated health insurance market is designed to control health expenditures through a balance of incentives both in the demand and in the supply. As a consequence, financing the basic basket of services should be completely covered by maintaining the current proportion of income tax devoted to health expenditure. However, it is important to note that this proposal increases coverage to social and residential care. Hence, there might be an increase of expected total (health, social and residential) expenditure if the incremental (social and residential) cost is not compensated with the savings derived from efficiency gains in health expenditure. Nursing and residential care would be publicly reimbursed on the basis of assessed need, with the potential for additional services to be financed through co-payments and out-of-pocket payments. The financing of public subsidies for social, nursing and residential care could be limited to the savings derived from the efficiency gains in the health insurance market., which would be financially neutral. Alternatively new sources of financing such as an additional taxation arrangement may be required in order to guarantee cross-subsidies for this insurance.

Including primary care in integrated health insurance

This model would improve on the current Australian arrangements through the inclusion of primary care within the integrated (public and private) funding arrangements. Individuals would still be required to make some co-payments to primary care doctors for their visits (with limits for low-income individuals or those suffering catastrophic events). However, model includes for individuals the requirement to choose a family doctor of reference (within the network of provider) to improve quality in healthcare through the sustained relationship and the integration and coordination of care.

6.3 A comparison of the three proposals

We have outlined the principles and foundation components for a health insurance market designed to provide for chronic health conditions, including long-term and social care. We have discussed three models in which those essential components are present to a greater or lesser degree.

Each of the models has been designed to solve two of the main problems in the current Australian health financing arrangements: duplication of insurance and fragmentation of care. Each model excludes public subsidies for supplementary health insurance, and each includes incentives for the promotion of integrated care, incorporating primary care within health insurance and healthcare provision. Crucially, each model incorporates chronic and social care.

The first proposal is the **purely public health insurance model** with special focus on chronic and social care. This model is financed almost entirely by taxes (with some co-payments) and by the allocation of public subsidies only to the public insurer. Consumers' choice of health providers is limited. All individuals contribute to the financing of the system, with mandatory enrolment in public insurance. Welfare gains are derived from the insurance, but there is no competition on quality or prices. The main problems in this proposal are that health providers are mostly reimbursed through fees for service and wages, so there are no incentives for efficiency

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in the supply of services, while the low level of co-payments and the intergenerational problem provide moral hazard incentives for increasing demand. Consequently, **the upward trend in health expenditures and the additional costs to the health insurance system of chronic and social care, make this proposal financially unsustainable and feasible only with a significant increase in taxes.**

The second proposal consists of a **mandatory private health insurance model** for chronic and social care. Financing is based on the payment of premiums to the individual's chosen health insurer, the co-payments specified in the insurance contract, and a mandatory medical savings account. This proposal rectifies some of the problems of the purely public health insurance model through the incentives for efficiency derived from the free contracting of insurers, their responsibility for health expenses, their freedom to set the reimbursement scheme to providers, and the avoidance of moral hazard incentives through relatively high co-payments. However, important concerns arise. The most important is the financial risk transferred to the population through the private market with high co-payments, and to a generation of individuals with no time to save enough funds in their medical savings account. Due to myopic behaviour and lack of funds, individuals may not make the most efficient use of health, chronic and social care, and end up needing more expensive health provision. Moreover, a subsidiary public insurer would absorb most of the high-risk and low-income individuals and suffer losses given the clear risk selection incentives. As a consequence, **this system is also considered to be financially unsustainable.**

Both models can be modified to better provide a health insurance market designed specific to provide for chronic health conditions. The purely public model could include choice of publicly funded private providers, higher co-payments, blended payments that give health providers stronger incentives for efficiency, and allowing or requiring high-income individuals to opt-out of the public system. The mandatory health insurance model might include degrees of public financing for low-income individuals, and the mandatory acceptance of individuals by all health insurers. However, these modifications turn the pure public or pure private models into hybrid systems, meaning they approach the features of the third model of mandatory integrated health insurance incorporating both private and public funding that is designed to provide for chronic health and social care for the population.

This model is funded through taxes, but allows for some co-payments to reduce moral hazard incentives. It allows opting out of public insurance and precludes private supplementary insurance. It creates a contestable health insurance market with significant competition in quality and prices, and incentives for efficiently integrating primary care with chronic and social care, including inpatient stays, ambulatory and specialist care. The key to the efficiency incentives is that health insurers receive risk-adjusted public subsidies for individuals based on risk profile, while individuals save through a medical savings account to be used only in case of catastrophic events. As health insurance is mandatory, low-risk and high-income individuals cross-subsidise high-risk and low-income individuals.

It is our view that this model provides **all the essential components for an efficient health insurance market for chronic and social care and is financially sustainable, affordable and beneficial for Australia**, even considering the ageing of the population and greater prevalence of chronic conditions, as incentives will maximise value for money.

Table 1 depicts the degree to which the three proposals contain the essential components of an efficient health insurance market for chronic and social care. Section 6.3.1 contains a summary of the implementation requirements for establishment in Australia of a mandatory integrated health insurance scheme including public financing for a basic basket of services.

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TABLE 1: Proposals for health insurance focused on chronic and social care and their degree of compliance with essential foundation components.

PRINCIPLES AND ESSENTIAL COMPONENTS	PROPOSALS			
	Pure Public Health System		Mandatory private insurance	Integrated (public & private) mandatory health insurance
	Pure	Hybrid model-variations		
Principles:				
Free consumer choice of insurer/service provider	X	X	✓	✓
Free insurer choice of service provider and contract structure	Some	Some	✓	✓
Market transparency	Some	Some	✓	✓
Guaranteed access	✓	✓	X	✓
Efficiency	X	No/Some	✓	✓
Equity/cross-subsidisation	✓	✓	X	✓
Sustainable financing	X	X	X	✓
Essential components				
Competitive market of insurers	X	No/Some	✓	✓
Transparent and accessible information	X	No/Some	✓	✓
Mandatory enrolment/contributions	✓	✓	X	✓
Regulated standard packages and quality	✓	✓	✓	✓
Integrated contracts and care	X	No/Some	✓	✓
Guidelines, measurement and reporting of insurer and service provider performance	Some	Some	X	✓
Incentives of innovation	X	No/Some	✓	✓
Risk-adjustment and blended payment options	X	No/Some	✓	✓
Financed through social contributions/taxation	✓	✓	Some	✓

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Annex 1. Incentives and payment to providers: some tools

Capitated payment and risk adjustment

Risk adjustment is a payment mechanism through which the payer reimburses a capitated payment for the health service provision to each individual (or population). The amount of the capitated payment is derived of the expected cost of provision of healthcare and its formula may be more or less sophisticated depending on the information used that may stem from demographic, geographic or diagnostic variables. Van de Ven and Ellis (2000) offer an excellent review explaining the concept, evolution and use of risk adjustment formulae. When the capitated payment is prospective, the provider has the right incentives for efficiency because they can benefit from all their savings in which they incur during the provision. However, under some circumstances and depending on the regulation, they might also find incentives for risk select individuals so as to attract only the most profitable individuals and deter those with expected losses, taking advantage of the asymmetries of information. Different countries use capitated payments and risk adjustment in the reimbursement for health providers. Countries such as the USA, The Netherlands, Belgium or Germany, or Japan, with mostly private provision of healthcare use prospective risk adjustment for reimbursing their providers. In those countries, the tool of refined risk adjustment has become key in the promotion of both efficiency but also the integration and coordination of care. However, the use of risk adjustment is also common, although in a more restricted way, mostly in the reimbursement to public hospitals, in countries with a national health system such as the UK, Canada, or Australia. The key issue in the application of risk adjustment strategies is the choice of the information system utilized for the prediction on future health costs that might be suitable for the case of people with chronic health conditions. We will focus the following paragraphs on the Australian case.

Risk adjustment is used in Australia to reimburse public hospitals. State health departments manage and fund public hospitals based mostly on a prospective, capped activity-based formula using diagnosis-related groups (Dugdale and Healy, 2015). Those diagnosis related groups utilized in Australia are the *Australian Refined Diagnosis Related Groups (AR-DRGs)*. This patient classification system provides a “clinically meaningful way of relating the number and type of patients treated in a hospital (that is, its casemix) to the resources required by the hospital” (AIHW, 2015²). The first version of this patient classification system is from 1997 and since then, they have been under a permanent process of improvement. The main idea is to assign all patients with similar clinical conditions to the same AR-DRG as they are expected to use the same amount of resources from the hospital.

We have presented risk adjustment as a key instrument for the promotion of the right incentives for efficiency in the coordinated and integrated care provision to people with chronic health conditions. Although in countries such as The Netherlands and the USA many studies have shown the negative incentives for risk selection that come along with prospective payment, the use of appropriate and improved information systems alleviate those problems and are critical to promote efficiency under a competitive model of healthcare provision to people with chronic health conditions.

Fee-for-service

Fee-for-service (FFS) is a payment mechanism through which the payer (who could be the user or the insurer) reimburses retrospectively for each consultation, visit or contact with the healthcare provider. Being retrospective and activity based, it produces some incentives opposite to the case of prospective reimbursement. Because the provider benefits from more consultations there is a lack of incentives for efficiency. The health economics literature has found numerous evidence of this problem in different frameworks, and many times it has been referred to as supply induce demand (McGuire, 2000). However, as

² Information available at the AIHW webpage: <http://www.aihw.gov.au/hospitals-data/ar-drg-data-cubes/#ARDRGs>

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the literature has also noted, the use of fee for service and retrospective formulae based on actual cost in the reimbursement to health providers eliminates incentives for risk selection. This is the risk selection versus efficiency tradeoff that Newhouse (1996) described.

Many countries utilize this way for reimbursing at least some types of health providers. It is very common, for example in consultations to specialist care in private healthcare provision markets. In Australia it is very common the use of fee for service in the case of General Practitioners, who obtain about 90% of their reimbursement based on fee for service by The Commonwealth, and another about 10% through some incentive programs regarding whether they have met the practice standards and some benchmarks (Dugdale and Healy, 2015). Fee for services is also mostly used in the provision of specialist care in Australia, also with reimbursement from The Commonwealth but also with room for co-payments by the user.

Wages

It is very common in many countries, both with national health systems and social health insurance systems, to pay wages to doctors and health providers working at health institutions. The use of a wage is a natural tool for avoiding some negative incentives derived from schedules as fee for service, which might deter from providing healthcare provision when a sufficient level of activity is not guaranteed. That is the case of remote areas.

Blended payments

A blended payment is a payment mechanism through which the payer reimburses to the health provider based on a mix between both prospective and retrospective formulae. The idea behind this model is to take advantage of the benefits of risk adjustment formulae by providing incentives for efficiency in the provision, and at the same time reducing as much as possible the incentives for risk selection by the use of retrospective payments for the reimbursement of those individuals at risk of suffering risk selection. This mixed system has been analysed by different studies in the health economics literature from different perspectives, in the search for the optimal solution to the tradeoff between risk selection and efficiency incentives (Newhouse, 1996). In the USA, Luft and Dudley (2004) and Dudley et al. (2003) provided a methodology in which they identified a group of clinical conditions that made individuals at risk of suffering risk selection and proposed the use of retrospective payments for those individuals and prospective payments for the remaining population. García-Goñi et al. (2009) followed that model to estimate the effect of such hybrid risk adjustment in the pharmaceutical expenditures in a county in Spain, under the coverage of a national health system. In The Netherlands, different studies were proposing the use of risk sharing strategies together with risk adjustment, as in Van Barneveld et al. (2001) or Van de Ven et al. (2000), or mixed payment systems (Lamers et al., 2003). In the same line, Van de Ven et al. (2013) recommend as one of the feasible solutions to the problem of risk selection with the use of prospective payments, to provide subsidies as a complement to the risk adjustment formula that might come as ex-post cost-based compensations.

In practical terms, blended payments –representing the core of this report, have been used in the USA and Denmark, as briefly discussed in section 4.5, and in Canada for the reimbursement of Primary Care doctors with specific important in the case of doctors in rural areas, as explicitly exposed in section 4.1.3.

Pay-for-performance

Pay for performance (PFP) is a payment mechanism through which the payer reimburses the health provider an amount that depends on the health outcome. This reimbursement mechanism is intended to enhance the performance of the health system providing the right incentives to increase the quality of provision. The base of the pay for performance mechanism is the provision the right measure of the health outcome, which may be related to the quality of provision or the efficiency of the health resources utilized. The basis of reward should be established with transparency and linked to the measures earlier mentioned, whether in absolute

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terms (for instance as proportion of population vaccinated, or success in disease management programs) or in relative terms (establishing a ranking on results with other health providers).

Eijkenaar (2013) precises the benefits of pay for performance as a mechanism of reimbursement to health providers and specifies how it is a good complement for a sophisticated risk adjustment strategy, but not as the only mechanism of reimbursement. The clear problem of incentives in case of using PFP as the only reimbursement mechanism would be the risk selection because health providers would reject if possible high risk individuals with low likelihood of obtaining a good health outcome. Scheffler (2010) provides a revision of the different applications of pay for performance in different countries. Recently, maybe the most characteristic programs using PFP are the End-Stage Renal Disease (ESRD) Quality Incentive Program (QIP) to promote high-quality services in outpatient dialysis facilities treating patients with ESRD in Medicaid , USA (information available at: <http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/ESRDQIP/>); and the Advancing Quality (AQuA) program under the national health system in the UK intended to improve the quality of provision in hospitals across the North West of England³.

³ Information available at the Advancing Quality webpage: <http://www.advancingqualitynw.nhs.uk/index.php>

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Annex 2. Implementation of mandatory integrated (public & private) health insurance for Australia – a strategy and timeline

Define:

1. The health services included in the MBS and the PBS and levels of coverage for nursing and residential care
2. The minimum quality of all health services, nursing and residential care services included in the basic package of health insurance, and the guidelines for their performance
3. The quality indicators health insurers must report to the regulator
4. Catastrophic events
5. The maximum co-payments to be paid by low-income individuals and those who have suffered catastrophic events
6. Methods of validation of need for the provision of expensive health services (susceptible to risk selection), especially for needs deriving from catastrophic conditions, and the associated levels of reimbursement
7. Means tests for individuals to be eligible for the cap in out-of-pocket expenses
8. The risk adjustment methodology for calculating the expected healthcare cost per individual, given their risk profile, to be used to reimburse the health insurer as a bundled payment
9. The role of informal and long-term care in chronic disease management programs and nursing and residential care
10. The reimbursements for all types of health providers from the public insurer

The information that health insurers need to make transparent and public to individuals regarding their provider network, co-payments, quality performance for selected conditions, and complementary insurance (that includes the basic package).

Regulate:

11. The transparency of information supplied by health insurers to the regulator regarding the risk profile of insured individuals
12. Health savings accounts and the use of those accounts in the event of catastrophic conditions and nursing and residential care
13. Risk sharing or reinsurance between health insurers and the regulator for ex post financing the provision of care for individuals with catastrophic events
14. A new income tax or social contribution for financing nursing and residential care on the basis of assessed need
15. The blended payment or reimbursement from health insurers to primary care doctors and practices, including pay for performance, incentives for the implementation of chronic disease management programs and specific preventive strategies, fee for services, and wages (depending on local needs)
16. Open enrolment periods
17. Mandatory enrolment in the basic health insurance package with a public or private insurer
18. Prohibition of supplementary health insurance (as opposed to complementary insurance)
19. Health insurers' mandatory acceptance of any individual willing to enrol in their basic insurance package.
20. Mandatory choice of a primary care doctor of reference per individual.

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Implementation timeline:

Year 1

- Creation of independent technical agencies to regulate and govern the new mandatory private health insurance market:
 - o Health Quality Board (HQB)
 - o Health Information and Market Transparency Board (HIMTB)
 - o Health Insurance Regulator (HIR)
- Government(s) should define the:
 - o Safety net – the basic basket of services to be publicly subsidised
 - o Tasks the HQB and the HIMTB must perform (below).

Year 2

- Establishment responsibilities for the boards:
 - o HQB responsibility:
 - Setting standards of care quality provision, safety and efficacy
 - Setting maximum waiting times
 - Setting guidelines for quality in provision of healthcare, with special focus on chronic and social care, prevention strategies
 - Its relationship with Health Technology Assessment
 - Publicising the indicators used for measuring performance and quality.
 - o HIMTB responsibility for defining the way in which insurers, providers, individuals and the HIMTB itself will use, collect and make public information on the health insurance market:
 - From insurers to regulator or to the HIMTB, in respect of public subsidies:
 - Individuals insured
 - Risk profile
 - Performance (past years starting in year 1)
 - Cost of provision (past years starting in year 1)
 - All the information to be provided from insurers to individuals
 - From providers to insurers in respect of reimbursement
 - Individuals attended, full episodes
 - Performance, especially for prevention and disease management programs
 - Co-payments to be paid by individuals for service use
 - Out-of-pocket payments obtained from individuals
 - From insurers to individuals in respect of encouragement to enrol:
 - Menu of contract, at least covering the basic package
 - The network of providers from which individuals can obtain care
 - Premiums, co-payments to be paid by individuals for service use within the network of providers

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- From the HIMTB to individuals:
 - Publicise all the relevant information from insurers and providers so that there is transparency in the market and individuals can freely choose
- From the HIMTB to insurers:
 - Indicators of quality and performance to be used (quality of life, waiting times, vaccinations, screening,
- o HIR responsibility for provisions relating to:
 - The length of duration of health insurance contract (1 year)
 - Open enrolment every year from December 1st to December 31st to be effective on January 1st next year
 - Mandatory acceptance
 - Automatic renewal – unless he or she opts out, the individual is directly renewed with the previous insurer
 - Opt-out procedures for public and private insurers
 - Terms and conditions for insurers in the market including that:
 - An insurer who decides to enter the market must trade for at least 7 years
 - insurers can freely contract with different providers to form their network of providers and at the same time, a private provider (GP, specialist, or hospital) can belong to the network of providers of different insurers under private contracts
 - Risk adjustment formula for subsidy arrangements for individuals
 - Progressive implementation towards comprehensive health, chronic, and social care by year 10 (below)
 - The management of the medical savings account per individual.

Year 2, June (and each year if there are changes)

- Both boards should be functional, and have collected and publicised the abovementioned information. The terms published in Year 2 would be applicable in year 3. Any change in contracts, coverage (basic by the Australian Department of Health or supplementary for the insurers), premiums or co-payments should be published before the end of June to oblige in January.

Year 2, December

- Individuals choose their initial carrier and a GP of reference, effective in January year 3.

Year 3 – 1st quarter

- Medical Savings Accounts established
- Operation of the health insurance market
- Insurers payments implemented.
- Creation and mandatory enrolment for all insurers into a risk-sharing group or reinsurance. Premium equals 5% of all public subsidies.

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Progressive reimbursement and coverage of primary care

In year 3, coverage by public and private health insurers in the market is complete in terms of primary care, specialist care and hospital care. (Therefore, by June of Year 2, insurers have published their network of providers, including primary care.) However, reimbursement remains unchanged.

- Rebates for the use of primary care doctors are delivered by private health insurers directly to primary care doctors (not through patients), but the amount of the rebate remains unchanged. Patients only have to pay the co-payment per visit established in the contract (with the rebate taken into account).
- Flexible provisions could apply in the establishment of networks of providers. If appropriate, all medical practitioners could be deemed to be members of all insurers' networks for an initial period.

Social care, nursing care, institutional and home care

From year 3, an additional one per cent income tax levy would apply to finance social, nursing, home, institutional and residential care. Although ideally this care will be also included in private insurance, that should be implemented progressively.

Years 3 to 5

Social, home, nursing and residential care, based on assessed need, is publicly financed through the additional 1% of income tax. The federal government determines organisation and provision of care. High co-payments (40% of cost) apply for the first years of application to reduce the intergenerational problem. Public subsidies could reduce co-payments for low-income individuals in need.

Years 4 to 6

Reimbursement from health insurers to the primary care practitioners changes to the model shown in Table 2, with a progressive implementation of capitation, taking into account the number of individuals that have chosen a GP of reference belonging to the insurer's network of providers.

TABLE 2: Progressive blended payment for primary care doctors

	FFS	Capitation	Supplementary wage per remote location	Economic incentives: disease management programs, vaccination, screening, prevention
year 3	100	0	✗	✗
year 4	75	25	✓	✓
year 5	50	50	✓	✓
year 6	25	75	✓	✓

During years 4 to 6, vertical integration of primary care networks or primary care units for insurers would be expected to become common, as was the case with the UK's Primary Care Trusts. A supplementary wage compensates doctors for working at a remote location, using the Consumer Price Index (CPI) and the cost of living in different geographical areas. The economic incentives taking into account performance would be similar to those implemented in Canada.

Reimbursement for specialist care and hospital care, and pharmaceutical expenditure

As this type of service is already being reimbursed in the current system by private insurers, no transition applies. Hospital and specialist care units are reimbursed under a private contract that based on a blended payment of fee for service and capitation with weights of diagnosis, or any other type of private contract,

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from year 3 on. Including pharmaceutical coverage in the same contract will provide incentives for efficiency in the use of pharmaceutical products.

Years 6 to 8

By year 6, private health insurers would be providing full integrated health insurance to the general population. Individuals and markets will be familiar with social, residential and home care related to long-term care and chronic conditions. In years 6 to 8, the States, Territories or cities will begin to organise the provision of these services, with progressive decentralisation of these services. Co-payments could be lowered simultaneously.

Years 9 to 10

Once social and residential care has been decentralised to States, Territories or cities, full responsibility will transfer subsequently to private insurers and organisations. By year 9 or 10 the system transition would be complete. The outcome will be a financially sustainable mandatory and integrated health insurance market designed for chronic health and social care, publicly funded through income taxes with some co-payments to diminish the problem of moral hazard. This model would provide more choice for consumers, and freedom for insurers and providers in contracting as well as competition on quality and price.



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