



## **PATHWAYS TO REFORM**

# **Health funding and the reform of Federation**



The Australian Healthcare and Hospitals Association's *Pathways to Reform* series of research papers responds to the Commonwealth Government's reform processes on taxation and federalism.

**1 Sustainability, efficiency and equity in health care: the role of funding arrangements in Australia**

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**2 Primary Health Networks as a disruptive force for positive change**

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**3 Bundled payments: their role in Australian primary health care**

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**AHHA Pathways to Reform series**

**Sustainability, efficiency and equity in health care: The role of  
funding arrangements in Australia**

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**by the Centre for Health Economics Research and Evaluation**

**University of Technology, Sydney**



## About CHERE

CHERE is an independent research unit affiliated with the University of Technology, Sydney. It has been established since 1991, and in that time has developed a strong reputation for excellence in research and teaching in health economics and public health and for providing timely and high quality policy advice and support. Its research program is policy-relevant and concerned with issues at the forefront of the sub-discipline.

CHERE has extensive experience in evaluating health services and programs, and in assessing the effectiveness of policy initiatives. The Centre provides policy support to all levels of the health care system, through both formal and informal involvement in working parties, committees, and by undertaking commissioned projects.

This paper has been commissioned by the Australian Healthcare and Hospitals Association (AHHA), as part of the AHHA series, Pathways to Reform.

For further details on our work, see [www.chere.uts.edu.au](http://www.chere.uts.edu.au).

## Project team

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## KEY POINTS

The financing of the Australian health care system faces significant challenges. Foremost amongst these include the following:

- Rising health care costs due to the ageing population, rising incomes and expectations, and more expensive technologies and services. In addition, more complex and chronic health needs will shift service demands from episodic treatment to integrated care between service providers and over time.
- A tax base which favours individual income taxes, and which will shrink as the dependency ratio (of elderly to working-age individuals) grows. This shifting tax burden introduces significant issues of inter-generational equity.
- Growth rates in health care expenditure thereby continuing to outstrip that of revenues, and increasing reliance on OOP and PHI financing.

There is a need for a public debate on how Australia's health care financing and funding can play a constructive role in delivering more efficient and equitable care, and in ensuring equity in the financial contributions made towards that care. Any reforms need to be underpinned by the recognition that no single entity is currently accountable for the delivery of a patient's health care needs and that the incentives facing the agents of health delivery do not reward them for providing better patient outcomes and improved system efficiency.

The current debate (principally the GST debate) is framed in terms of the States and Territories' need to support growth in public hospital costs, in the context of falling Commonwealth contributions. However, higher GST revenue will not provide incentives for integrated care, rather reinforcing existing structures and the separation of funding for public hospitals separately from primary care. An argument about whether this is a State or Commonwealth responsibility is futile when what is needed is a new approach to integrating care. For this reason, decisions about how to best raise revenues and how to allocate these to different parts of the health care system should be considered separately from whether they lie within the jurisdiction of the Commonwealth or the States and Territories.

There are a range of public revenue instruments (beyond the GST) which can be considered. Some of these are already being implemented. For example, increases in the age of pension eligibility may lift workforce participation among the elderly, reducing pension expenditure as well increasing income tax revenues. Other taxation instruments are also worth consideration, particularly those that directly address the intergenerational tax issues that arise from rising dependency ratios. Such measures include the (re)introduction of superannuation benefit taxes, or tapping into accumulated wealth. In addition, there are instruments that allow for greater revenues to be collected during the working years such as the accumulation of sovereign medical savings accounts. Importantly, the impact of the efficiency of and equity of access to health services must be considered alongside the efficiency and equity of revenue-raising.

## INTRODUCTION

The Centre for Health Economics Research and Evaluation (CHERE) has been commissioned by the Australian Healthcare and Hospitals Association (AHHA) to write two papers as part of the Association's series on *Pathways to Reform*. The series will contribute to public debate during the development of the Australian Government's White Papers on *Reform of the Federation*, and *Reform of Australia's tax system*. This is one of two papers produced by CHERE – the other considers policy options for the new Primary Health Networks (PHNs).

This paper examines the financing of Australia's health care system. It describes the sources of revenue that pay for health care services and products. In doing so, the paper discusses the extent to which Australia's health care funding arrangements support the efficient and equitable delivery of health care services. In particular, we examine these issues in light of the changing demographic nature of the Australian population which will have substantive implications for the financing, demand and delivery of health care services in the future. The paper seeks to address the question of how (rather than how much) we raise our health care revenue and whether the sourcing of revenue has an impact on the performance of the health system.

Australians have one of the highest life expectancies in the world and can expect to live about 25 years longer, on average, than a century ago. Life expectancy at birth is currently 79.9 and 84.3 years for males and females, respectively. Importantly, we are not just living longer, but have more years living free of disability. A boy born in 2012 can expect to live 62.4 years free of disability but in 1998 this figure stood at 58.0. A girl born in 2012 could expect to live 64.5 years free of disability compared to 62.1 in 1998. In 2011-12, more than half (55%) of all Australians aged 15 and over considered themselves to be in 'excellent' or 'very good' health. Another 30 percent said they were in 'good' health. Just over 1 in 10 (11%) rated their health as 'fair', and only 4 percent as 'poor' (Australian Institute of Health and Welfare, 2014a).

Improved treatments and health outcomes have been accompanied by ever increasing health care costs. The ratio of current health expenditure to gross domestic product (GDP) increased from 6.8 percent in 1982 to 8.8 percent in 2012-13 (OECD, 2015a). This trend is set to continue. The Intergenerational Report, for example, forecasts that the Commonwealth Government's contribution to health will rise by around \$260 billion over the next 40 years. This would increase the per capita health contribution of the Federal Government from \$2,800 in 2014-15 to reach \$6,600 in 2054-55 (Australian Treasury, 2015a)<sup>1</sup>.

A frequently asked question is whether these rising health care costs will remain affordable in the future. This question is particularly pertinent because governments are the primary funding source of health care. At the same time, governments face increasing fiscal pressures.

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<sup>1</sup> This is based on the "Currently legislated" scenario as presented in Australian Treasury (2015a, page 60). Under the "proposed policy" fiscal projection, this real per capita growth in spending would be considerably less, though this is not quantified in the Australian Treasury (2015a). However, a sense of the difference between these two fiscal projections is provided in Chart 2 of the Australian Treasury (2015a, page xiv)

They are constrained in the revenue they can raise as well as by competing spending priorities.

The paper is structured as follows. First, it compares Australia's health expenditure to similar OECD countries including how we pay for this care through public funding, direct patient payments and private health insurance. Second, given the focus of current federation debate, we examine the contributions of the Commonwealth and States and Territories Governments to public health care funding in more detail. Third, we examine funding and financing policies in other countries, focusing on reforms that followed on from the immediate aftermath of the global financial crisis. Finally, this paper summarises key findings and draws out the main policy implications to inform the current debate on health care financing in Australia.

## **HEALTH CARE SPENDING AND SOURCES OF FINANCE**

Health care is an important economic sector in its own right. Across all 34 OECD countries, it accounts for around 8.9 percent of gross domestic product (Figure 1) and equates to around AU\$6,400 per capita. As a proportion of GDP, Australia's current health care spending is very much in line with the OECD average. Though the majority of OECD countries spend between 8 and 10 percent of GDP on health care, there are some countries that are considerably outside of this range. Mexico and Poland, for instance, devote substantially fewer resources (6.2% and 6.4%, respectively) to health whereas countries such as the Netherlands, Sweden and Germany spend in excess of 11 percent of GDP. The United States has been a consistent outlier in this measure, with health care spending accounting for more than 16 percent of its total economy.

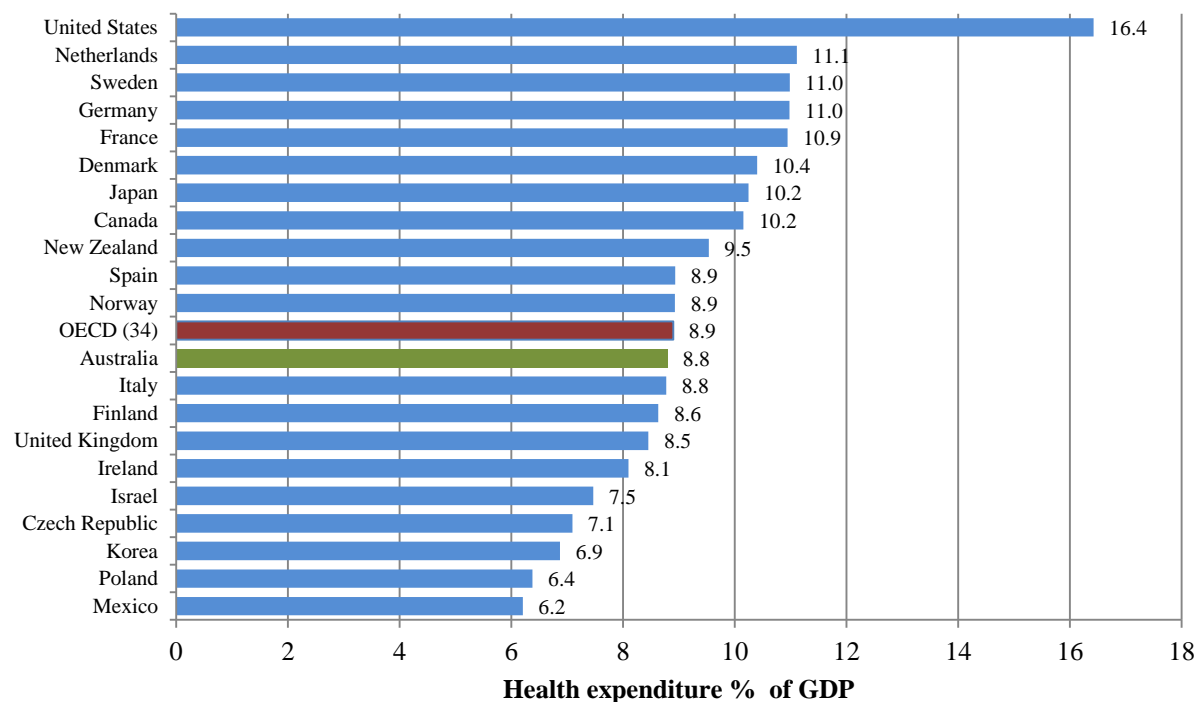
There are a number of important drivers of health care expenditure: rising incomes, expectations, new technologies and an ageing population. Across countries, there is a longstanding association between income and health spending, with higher income countries devoting a greater share of their economy to health care. While, in part, this is a consequence of greater disposable income being directed to the consumption of health care, it also reflects the adoption and diffusion of more expensive technologies. In the United States, for example, new technologies account for anywhere between 27 and 48 percent of health spending growth (Smith, Newhouse, & Freeland, 2009). In Australia, the role of new technologies as a cost driver can be demonstrated in cancer-related pharmaceutical expenditure. Between 2001 and 2009, overall costs of cancer-related care increased by 56 percent but cancer-related pharmaceutical spending increased by 220 percent over the same period. This high growth is explained by not only having more people having treatments over longer periods of time, but also by the higher prices society is paying for such treatments (Australian Institute of Health and Welfare, 2013).

Older age is also aligned with higher health care spending. As the proportion of elderly people in the population rises, so too does overall health care spending. This is a salient point for Australia, because it still has a relatively young population compared to many other OECD countries. For example, in 2014 the percentage of the population aged 65 and over in

Australia was 14.7 percent, compared to the OECD average of 16.2 percent and in countries such as Japan and Germany this percentage is now in excess of 20 percent. These demographic differences need to be taken into account when making international comparisons of health spending.

The proportion of the Australian population aged 65 and over is projected to reach 22.4 percent by 2054, representing an additional 5.3 million people over this age. Currently, for every one person over the age of 65, there are 4.4 people in the prime working and income tax paying age group of 15 to 64. By 2054 this dependency ratio is set to decline to 2.7. Whilst our health care spending currently appears benign by international standards, our relatively young population may help explain this. As the Australian age profile catches up to that of other countries, health expenditure growth may accelerate, and there will be proportionally fewer income tax payers to help fund the public health costs.

**Figure 1. Current health expenditure as a percentage of GDP (OECD selected countries, 2013 or nearest year)**



Source: OECD (2015a)

In all OECD countries, health care is funded through both public and private sources. Public sources comprise taxes and social insurance, whereas private sources consist of contributions through (a) private health insurance (PHI); (b) out-of-pocket (OOP) costs; and (c) other private sources such as injury compensation. Though all countries use a mix of all these sources of finance, what differs is their reliance on one source of revenue over another. In Australia, for example, public funding accounts for 5.9 percent of GDP and private funds account for a further 2.8 percent of GDP.

The funding and financing system has an enormous bearing on the efficiency, equity and sustainability of the health-care system. Table 1 summarises some of the main implications of shifting the funding source mix from one to another. In the health economics literature, shifts

towards more insurance is often regarded as way of reducing uncertainty, potentially improving equity (particularly if it is public insurance) but creating more inefficiency due to potential overconsumption. The impacts of financing shifts on health care supply and sustainability have become a more recent topic of research. For example, Finkelstein (2007) found that the introduction of Medicare in the United States had a significant impact on increasing the medical workforce, capital expenditure and technology diffusion. Table 1 provides a general outline of the expected impacts associated with changing funding sources. Many countries, including Australia, have put in place additional policies that seek to safeguard against some of the unwanted effects. For example, concession cards provide additional financial protection from high OOP costs for pharmaceuticals and medical services for many pensioners and low income households. In addition, the Pharmaceutical Benefits Scheme (PBS) and Medicare Safety Nets provide additional protection for those patients who face high OOP costs. The Government has also put in place mechanisms to evaluate which services are covered to reduce the risk of paying prices that are unwarranted (e.g. economic evaluations to help decide which drugs and health care services are listed on the PBS and Medicare Benefits Schedule), as well as restrictions on the number of services paid.

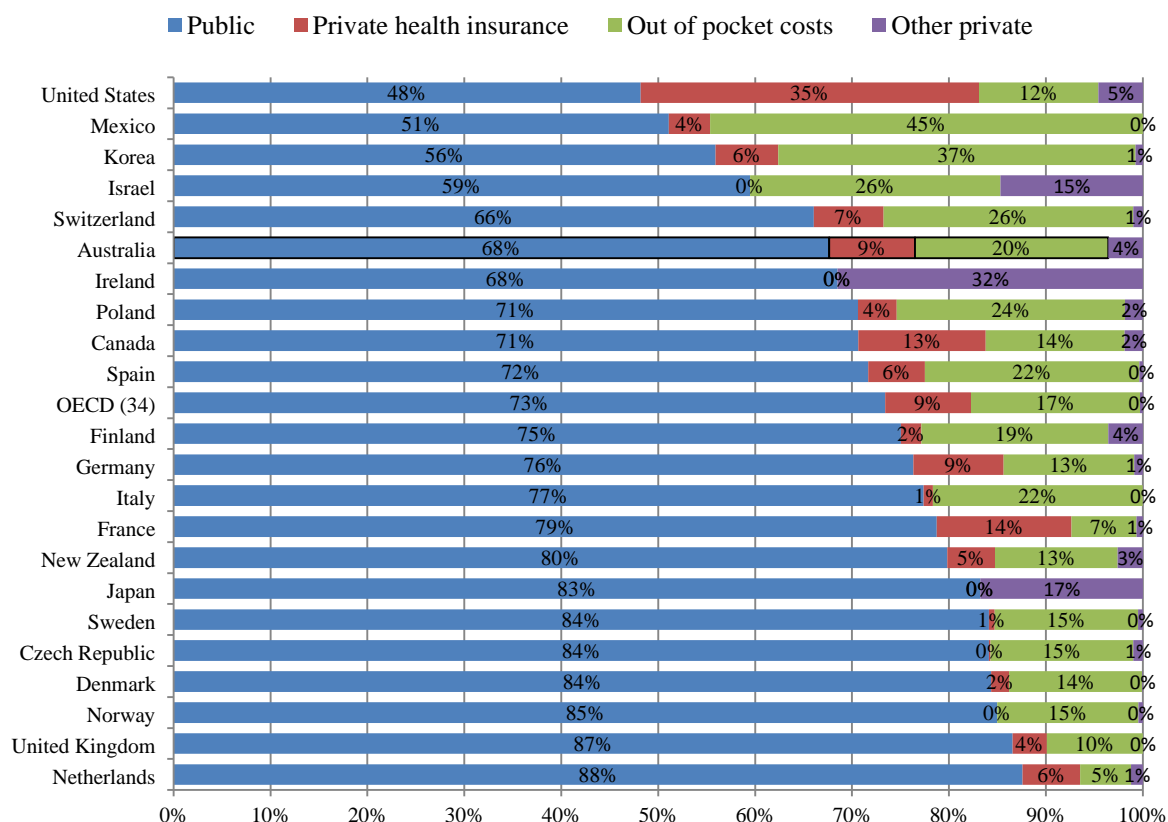
The system of financing also has implications for the distribution of income. Systems that are predominantly financed through insurance typically redistribute resources from the healthy to the sick. Health systems that are financed through progressive taxes will raise a higher proportion of revenue from wealthier sections of the population, and thereby redistribute resources from the wealthy to the sick.

**Table 1. Health system implications of funding sources**

	<b>OOP costs</b>	<b>Private insurance</b>	<b>Public funding</b>
<b>Efficiency</b>	Reduces demand, including over - consumption.	May increase over-consumption and prices charged.	May increase over-consumption and prices charged.
<b>Uncertainty</b>	Increases risk of financial loss in case of illness.	Reduces risk of financial loss in case of illness.	Reduces risk of financial loss in case of illness.
<b>Supply of health</b>	Sends price signals to health care providers to deliver care to those able and willing to pay.	Sends price signals to health care providers to deliver care to those who are insured, and what products/services are covered.	Sends price signals to health care providers to deliver products/services that are covered.
<b>Equity of access</b>	Leads to inequity between those able to afford health care and those who can't.	Leads to inequity between those who are and are not insured.	Reduces inequities to health care access.
<b>Equity of financing</b>	Likely to be regressive.	Likely to be regressive.	Likely to be progressive.
<b>Sustainability</b>	Provides a source of revenue from patients, and reduces use in the short-term. May increase costs over the longer term if patients do not seek preventive care.	Provides a source of revenue from insured. May increase costs if health funds have insufficient negotiation power over price, volume and benefits.	Greater reliance on tax revenues that may require higher taxes or cuts to other (non-health) programs.

Figure 2 reveals that across OECD countries 72.7 percent of total current health care spending is financed through public sources. In Australia, only 68 percent of health expenditure is financed through public sources, one of the lowest percentages in the OECD. In many countries with comprehensive public health insurance arrangements such as the United Kingdom, the Netherlands and New Zealand this percentage exceeds 80 percent (OECD, 2015). There is a relatively strong reliance on private sources of finance in Australia, with OOP costs accounting for around 20 percent of total health expenditure compared to an OECD average of 17 percent. The percentage contribution of private health insurance in Australia is in line with the OECD average (9%).

**Figure 2. Sources of current health care expenditure (Selected OECD countries, 2013 or nearest year)**



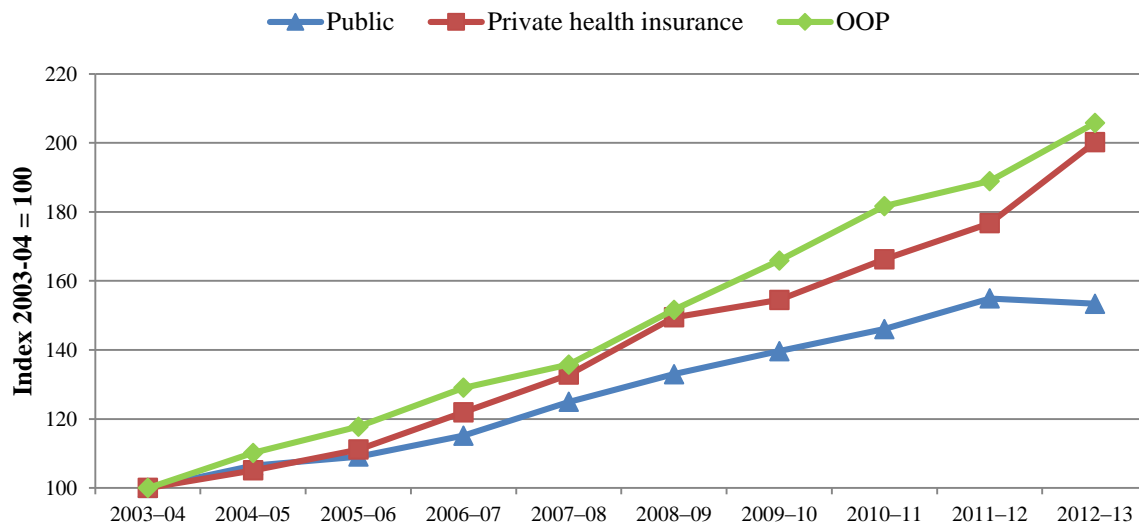
Source: OECD (2015a)

The sources of health care finance can change over time. Such changes may come as a consequence of policy action, or as a result of policy settings. For example, the PHI rebate, introduced in 1999, meant that 30 percent of premiums were now funded through public means. Despite the surge in PHI membership in following years, the net impact of these changes was that a greater proportion of funding came through public sources. The total amount of private health funding increased also because of additional PHI memberships. Similarly, the government decision to freeze MBS rebates for GP attendances in the mid-1990s was associated with subsequent lower bulk-billing and higher OOP costs for patients. The important historical message is that the sources of funding are highly interrelated.

In the last decade, there has been considerable variation in the rate of growth between the three sources of finance in Australia. As shown in Figure 3, health care expenditure financed through public sources grew by 53 percent between 2003-4 and 2012-13 (in current dollar terms). PHI and OOP costs, on the other hand, increased by more than 100 percent over the same time period. As a result of these differing growth rate trends, Australia's health care financing is becoming more reliant on PHI and OOP costs which, in turn, has consequences for the way in which resources are allocated and distributed. This is an important point in the current context of the federalism debate. Though this debate is predominantly focused on the roles of the Commonwealth and States and Territories Governments, it should be recognised

that any health reforms at the government level are likely to have repercussions on the broader financing of health care, in terms of OOP costs and PHI which, in turn, will have consequences on the functioning of the system.

**Figure 3. Rate of health care expenditure growth by source of funds (current prices, 2003-04 = 100)**



Source: Australian Institute of Health and Welfare (2014b)

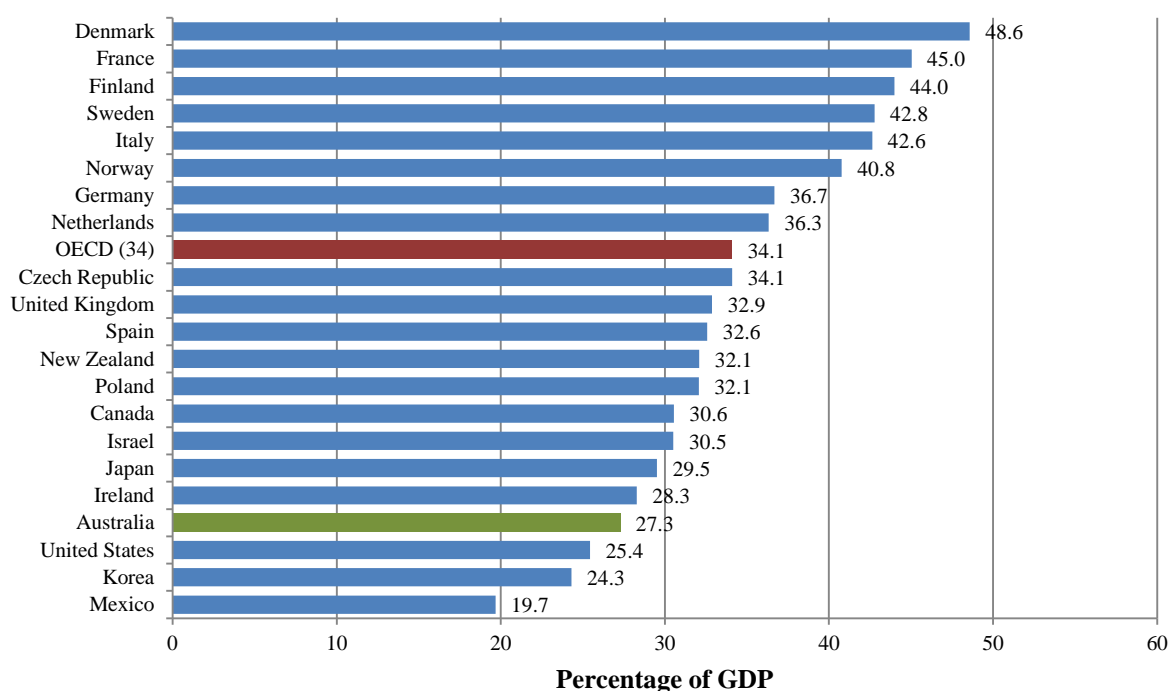
The funding sources have, to a considerable extent, become synonymous with the mode of health care delivery in Australia. For example, funding through PHI is closely aligned to private hospital services whereas the GST, by being distributed to the states, is aligned to public hospitals. Such alignments are largely historical constructs and not necessarily the optimal way for revenues to be raised and then allocated. For example, it does not follow that a need to increase public hospital funding automatically implies that GST revenue should increase. Instead, decisions about how to best raise revenues and how to allocate these to different parts of the health care system should be considered separately.



## PUBLIC FINANCING OF HEALTH IN AUSTRALIA

Australia is a low taxing nation, with a tax base mix which differs significantly from the OECD average. In particular, Australia relies more heavily on individual income taxes (which comprise 39% of the tax base compared to an OECD average of about 24%), and less on consumption taxes (about 28% of the tax base versus an OECD average of 33%) (OECD, 2015b). Overall however, Australia's taxation revenue is equal to a relatively low 27.3 percent of GDP (Figure 4). That is, while the composition of the tax base differs significantly from the OECD average, the overall tax burden is relatively low. Only three out of 34 OECD member countries have lower tax revenue percentages (Mexico, Korea and the United States) than Australia. Tax revenue as a percentage of GDP is in excess of 40 percent in traditionally high-taxing countries such as Denmark, France and Finland. However, even in countries such as New Zealand, Canada and the United Kingdom, tax revenues exceed those collected in Australia. The difference between the OECD tax revenue average of 34.1 percent and Australia's 27.3 percent is equal to 6.8 percentage points. In dollar terms, this gap represents around \$110 billion dollars – which is more than Australia's total publicly funded health care expenditure.

**Figure 4. Tax revenue as a percentage of GDP (OECD selected countries, 2013 or nearest year)**



Source: OECD (2015b)

By international comparisons, Australia has a relatively heavy reliance on income taxes as a source of revenue, and a low reliance on the Goods and Services Tax. The Medicare levy is part of the income taxes raised by the Commonwealth Government. Currently it is set at

2 percent of taxable incomes, although there are reductions for those who earn less than \$26,000 and exemptions for some including those on incomes below \$21,000. In 2011–12, the levy raised around \$9 billion in revenue, only partially offsetting the cost of Medicare services, which totalled around \$17.6 billion.

The funds raised by the levy are not dedicated to any one purpose, although there is widespread belief in the community that the levy pays for health care services. When Medicare was introduced in February 1984, the Medicare levy was set at 1 percent of personal taxable income and was justified on the basis that it would pay for the additional costs of implementing Medicare, in particular to compensate the states and territories for the costs of providing free hospital care.

Over time the levy has increased and has been used as an instrument to temporarily raise funds for specific purposes. Several increases between 1986 and 1995 were justified on the basis of rising medical costs. Collectively these increments raised the levy to 1.5 percent. In July 1996, a one-year surcharge of 0.2 percent was introduced to fund the gun buy-back scheme. In July 2014, the levy was increased to 2 percent to contribute to the National Disability Insurance Scheme (NDIS).

## COMMONWEALTH, STATE AND TERRITORY REVENUE AND HEALTH EXPENDITURE

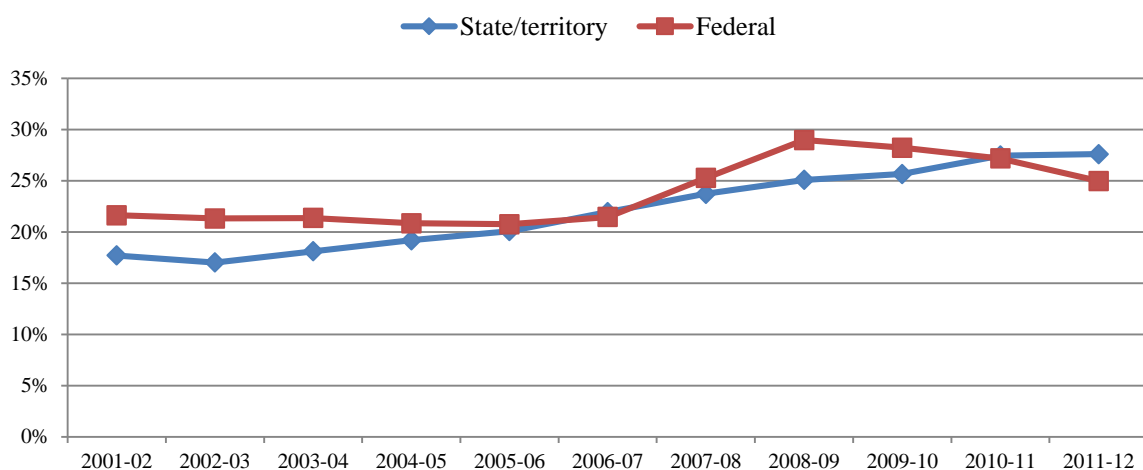
Overall, Australia collects around \$416 billion in taxes every year, or around \$19,000 per capita. The Commonwealth Government collects around 81.3 percent of this revenue, State and Territory governments collect 15.3 percent and local governments raise 3.4 percent of total tax revenue. It should be noted that these figures are calculated on the basis of where these revenues are collected, rather than where they are used. The GST represents somewhat of an anomaly because it is collected by the Commonwealth Government but it is passed on entirely to State and Territory Governments for their spending purposes. Even after adjusting for GST, Australia's tax system has a degree of vertical fiscal imbalance, and the Commonwealth Government reallocates some of its revenue to the states and territories through a variety of mechanisms – many of which impose policy obligations on the states.

Figure 5 shows the proportion of tax revenue spent on health care by both the Commonwealth and State and Territory Governments. These data have been adjusted to account for where the tax revenue is spent rather than where it is collected (e.g. the GST is classified as a state and territory revenue). Over time, federal own-purpose health care spending as a percentage of tax revenue has increased slightly from 22 percent in 2002 to 25 percent in 2012, but there were considerable fluctuations over the decade. Between 2002 and 2007 the Commonwealth Government's health spending to revenue proportion held steady, but then increased substantially between 2007 and 2009; a time when tax revenues collapsed. The proportion of federal tax revenues spent on health care has fallen sharply since 2009 as

tax revenues recovered. In the most recently available data relating to financial year 2012-13, federal health expenditure actually fell in real terms by 2.4 percent.

For the State and Territory Governments, health care spending is consistently taking up greater proportions of their total revenue. In 2002, health spending absorbed 18 percent of state and territory total revenues but by 2012 this percentage had increased to 28 percent. Unlike the Commonwealth Government’s expenditure to tax ratio, this steady rise is largely due to increasing health expenditures rather than fluctuations in tax revenues.

**Figure 5. Health expenditure as a percentage of revenue collected, Commonwealth, State and Territory Governments**



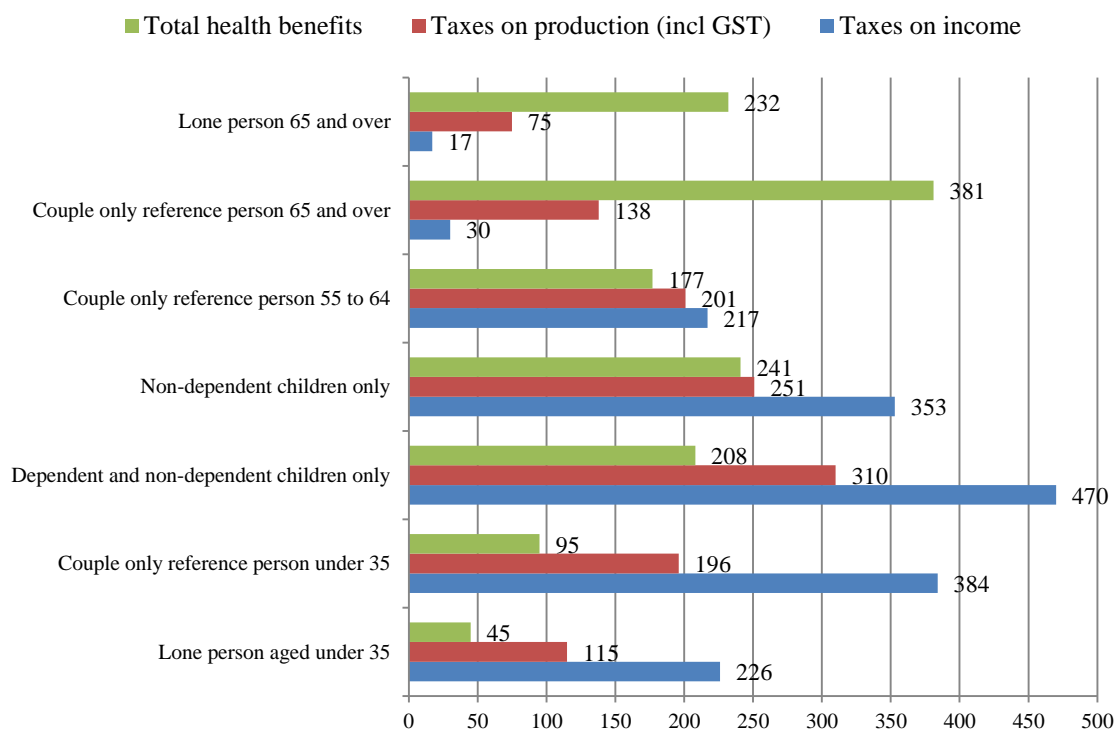
Source: Australian Institute of Health and Welfare (2014b). Note that GST revenue is counted in the State and Territory Government’s denominator

The last decade has witnessed the development of a substantial gap between the growth in government revenue and public health expenditure. The gap is particularly pronounced for State and Territory Governments. Between 2002 and 2012, health expenditure for the State and Territory Governments increased by 137 percent (in current prices) whereas tax revenues increased by 52 percent. The state and territory revenue includes the GST. For the Commonwealth Government, health expenditure increased by a 103 percent but its revenues increased by 75 percent (Australian Institute of Health and Welfare, 2014b). The period between 2007 and 2009 witnessed a substantial decline in the Commonwealth Government’s tax revenue which coincided with substantial tax cuts as well as the global financial crisis. Following 2009, the rate of growth for federal tax revenues accelerated again. Even with the GST, state and territory revenue did not keep pace with the Commonwealth Government’s revenue growth.

The ageing population has a dual impact on health care funding and financing. On the one hand, health care expenditures are set to rise when a higher proportion of the population are elderly. On the other hand, growth in tax revenues may fall as the elderly pay fewer taxes,

particularly income tax. Figure 6 demonstrates this phenomenon. It shows the amount of weekly taxes paid by households as well as government health benefits received across different stages of the life course. For example, total government health benefits for a couple aged 35 and under is \$95, but their average tax contribution is \$584 per week. Two-thirds of this tax is derived from income. By contrast, the government’s weekly health benefits for couples aged 65 and over amounts to \$381 but their tax contribution is only \$168. Perhaps not surprisingly, 82 percent of an elderly couple’s tax contribution is through the Goods and Services Tax (GST). This shows that as the population ages, taxes on consumption become a more consistent and important source of revenue for governments.

**Figure 6. Weekly government health benefits and taxes by household type<sup>2</sup> (2009-10)**



Source: Australian Bureau of Statistics. (2012)

Figure 6 also illustrates the generational cross-subsidies that occur as people of working age contribute to health care of the elderly. The falling dependency ratio will mean that the Australian population will have relatively fewer households of working age and relatively more retirees. This will have repercussions on the composition of taxes collected, and the amount of tax collected in relation to health expenditures. As noted previously, consumption-based taxes redistribute the taxation burden, as the elderly pay relatively more GST than

<sup>2</sup> Dependent children are all those under the age of 15 or full-time students aged 15-24, who have a parent in the household and do not have a partner or child of their own in the household.

income tax as a proportion of their total income. Reconsidering the structure of superannuation tax concessions is another alternative.

## FUNDING AND FINANCING RESPONSIBILITIES IN AUSTRALIA

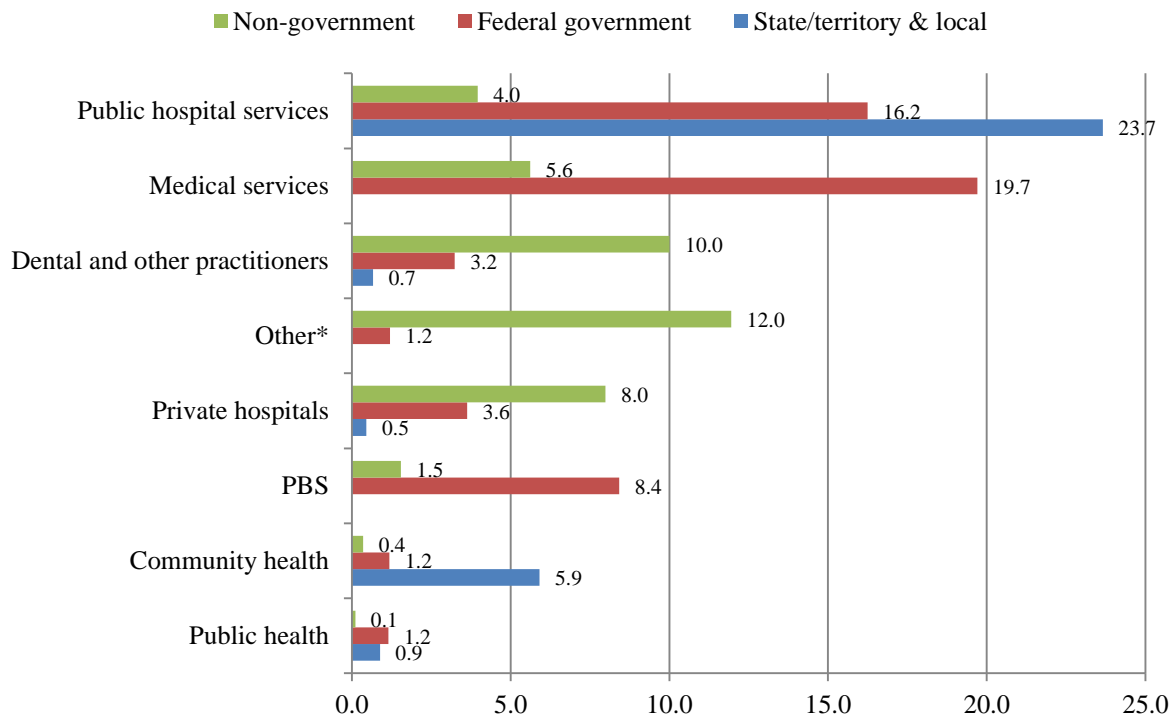
Since the time of Federation, the Commonwealth Government has been granted greater revenue raising powers but State and Territory Governments have, by and large, maintained their funding responsibilities in areas such as community services, education and health. Around 55 percent of State and Territory Government expenditure is raised through their own revenue measures, and the remaining 45 percent is provided by transfers such as the GST and the specific purpose grants (Australian Government, 2015). The draft *Reform of the Federation* Discussion Paper notes that this high degree of vertical fiscal imbalance (VFI) is a problem because “it can create a situation where the states and territories blame the Commonwealth for not passing on enough funds to deliver their services, or where the Commonwealth can blame the states and territories for not using taxpayers’ funds properly” (Australian Government, 2015, p. 10).

While the Commonwealth Constitution lies at the heart of the fragmentation of the health system, it has been exacerbated by the Commonwealth using its fiscal capacity to influence policies and fund programs that are the responsibility of the States (and Territories). Figure 7 details health expenditure by sources of funds. Almost 50 percent of the Commonwealth Government’s \$61 billion health care expenditure is used to pay for medical services funded through the Medicare Benefit Schedule (MBS) and pharmaceuticals listed on the Pharmaceutical Benefits Schedule (PBS); \$19.7 billion and \$8.4 billion, respectively. Other programs include dental (\$0.8 billion), community health (\$1.2 billion), public health services (\$1.2 billion), and veterans’ health (\$0.9bn). Grants to the states and territories account for 26 percent of the Commonwealth Government’s health expenditure (\$15.9 billion). The majority of this funding constitutes the Commonwealth Government’s direct contribution to the funding of the States’ and Territories’ public hospitals. In 2012-13, this consisted primarily of National Health Reform Grants. The private health insurance rebate costs around \$5.1 billion and is attributed to the Commonwealth Government’s contribution towards private hospitals and medical inpatient services (in addition to the MBS benefits it pays for these services) (Australian Institute of Health and Welfare, 2014b).

The state, territory and local government allocation of health expenditure is also shown in Figure 7. Collectively, these levels of government expenditure contribute \$31.6 billion per year, with the vast majority of this funding flowing towards the provision of public hospital services (75% or \$23.7 billion). The non-government sector contributes a further \$41.5 billion. Non-government contributions are primarily payments made by patients directly for products and services as well as through private health insurance premiums. Noteworthy is that the biggest non-government health expenditure is in the “other” category, which consists of pharmaceuticals that are not listed on the PBS as well as aids and appliances. Dentistry and

other health practitioners is the next biggest non-government expenditure item (\$10 billion) and reflects the lack of public provision and/or insurance coverage (both public and private) for these types of services.

**Figure 7. Health expenditure by area and source of funds, 2012–13 (\$ bn)**



Source: Australian Institute of Health and Welfare (2014b)

\* Aids, appliances, non-listed pharmaceuticals

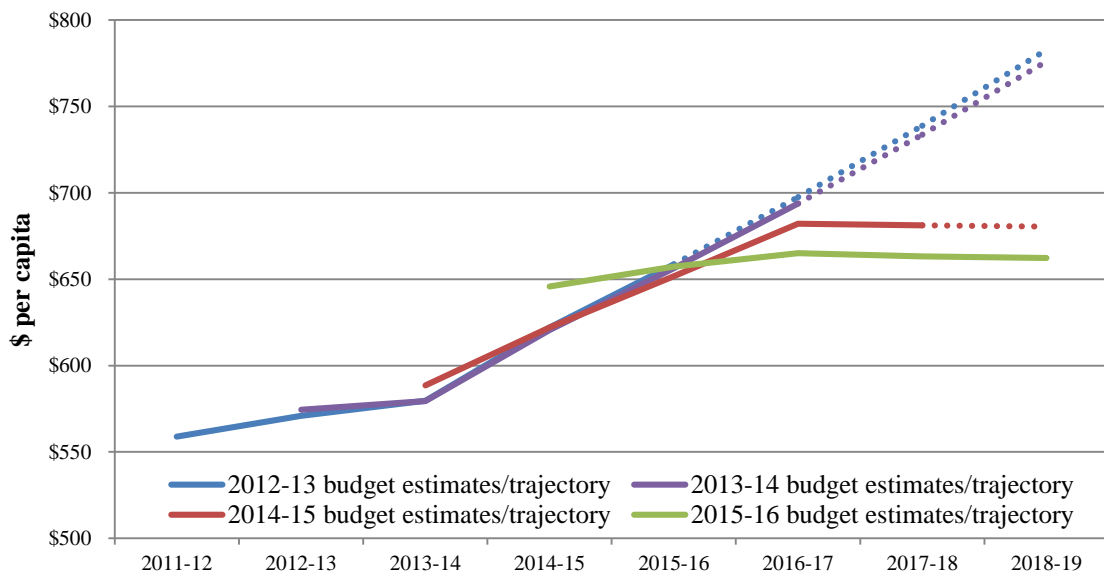
As result of this fragmentation, most health sectors (including primary care, hospitals, pharmaceuticals and public health) rely on funding from multiple sources. Importantly, no single agency is responsible for the delivery of health care to any given patient. An episode of care is likely to involve multiple sectors funded by different agents. This is not only confusing for the patient, as there is a lack of clarity about their entitlements and expenses, it also creates incentives on the part of some health sectors to try and shift financial responsibility to another funding source (often referred to as cost-shifting).

Cost-shifting is not an economic problem by itself, unless it leads to the inefficient use of health care resources (e.g. duplication of services, higher transaction costs). However, it is symptomatic of a system where no single entity is accountable for the delivery of a patient's health care needs which, in turn, can create substantial barriers to the efficient delivery of health care. The incentives facing the agents of health delivery (predominantly the various health care professionals) do not reward them for providing the best or most efficient available care. Instead, under some programs the financial incentives revolve around providing greater volumes of care (e.g. MBS), rather than most appropriate care.

It is also becoming increasingly clear that as part of its vision to return the budget to surplus, the Commonwealth Government has foreshadowed major cuts to the expected growth in its health contribution to the states and territories. Figure 8 brings together information from four consecutive Commonwealth budgets handed down between 2012 and 2015. The solid lines show the forward estimates of each of the four budgets, alongside the dashed lines which represent simple linear trajectories going beyond the four year period over which budgets routinely report. The 2012-13 Budget foreshadowed a substantial increase in the Commonwealth Government’s contribution to public hospital funding through the National Health Reform Funding agreements between the States, Territories and Commonwealth Governments. The first and second Abbott Government budgets substantially reduced this growth trajectory, directly conflicting with the principle of durability laid out in the *Reform of the Federation* terms of reference. Consecutive budget adjustments have meant that in 2016-17, the states and territories will receive \$32 per capita less from the Commonwealth Government than anticipated in the 2012-13 budget. This equates to around \$800 million for that year. Furthermore, the 2015-16 budget forecasts constant levels of Commonwealth Government spending from 2017 after accounting for CPI and population growth.

If recent growth trends in hospital expenditure persist, the Commonwealth Government’s proportional contribution to public hospital funding will diminish quickly. Under these circumstances, State and Territory Governments have to find additional revenues to make up future shortfalls. It is in this context that recent calls for a higher GST rate have been made.

**Figure 8. Australian Government funding to states and territories for public hospitals (per capita, constant dollars)**



Source: (Australian Treasury, 2012, 2014a, 2014b, 2015).  
Population data based on ABS projections. Constant dollars adjusted for CPI published by the Reserve Bank of Australia.

The Institute of Actuaries released a Green Paper that considered a range of alternatives for raising revenues that can meet the needs of the ageing population (Armstrong & Dyson, 2014). The options considered are:

- Working longer to minimise the fall in the dependency ratio and retain income tax revenue.
- Incentives (such as tax incentives) for personal medical savings accounts to save during working age years to help pay for care when needed.
- Sovereign Wealth Funds that add national savings to fund potential future health care liabilities.
- Prefunding private health insurance premiums by requiring insurance funds to build up reserves to hold against the future rises in the cost of premiums.
- Tapping into the wealth, rather than incomes, of the elderly to pay for health care. Recent aged-care reforms have introduced measures where residential care payments are dependent upon a person's income and wealth.

This list illustrates that there are a range of options. Greater contributions can be income based or asset based; they can involve individual accounts or pooled savings. Increasing labour force participation rates, through longer working lives or increasing participation of women, is part of a much wider economic debate. Several countries have established individualised medical savings accounts but these only contribute a proportion of total health expenditure. Savings accounts allow spreading the financing of health care over a lifetime, but they contradict many aspects of universal health insurance. They do not pool risks across populations which is an essential function of health insurance. Approaches that rely on generating new savings are too late for funding the health care of the 'baby boomer' generation who are already moving into retirement. Further, any approach which relies on greater user charges or personalised savings risks widening gaps in access to health care.

The current Federation debate has moved on from which level of government should do what in health care, as posed in the initial Health Issues Paper. The Commonwealth's decision to reduce its contribution to public hospital funding has left the States and Territories faced with the challenge of finding that revenue and into consideration of broadening and raising the level of the GST. This will tie funding to the current structure of service delivery, that is, States remain responsible for public hospitals and the Commonwealth for primary care. This is short term thinking. Australia has often been at the forefront of innovative social measures including the Higher Education Contribution Scheme (and the associated income-contingent loans) and compulsory superannuation. The challenges in funding and financing health care require equally innovative thinking that goes beyond the current GST debate.



## CHANGING HEALTH NEEDS ENTAILS SHIFTING FUNDING RESPONSIBILITIES

The changing age profile of the Australian population and the changing burden of disease will have not only significant implications for health expenditure and revenue, but also for the type of health care that is required. As the Federation Health Issues paper notes, current arrangements are largely structured around providers and funding streams rather than patients.

Australia's fragmented health funding and delivery system is likely to become an even bigger obstacle to efficient care in the future. Alongside the ageing population, the demand for health care will not only intensify but health care needs will also change. More people will have multiple chronic conditions that are complex and require frequent care from a multidisciplinary team of health providers. In addition, these services should be well integrated to ensure that patients receive optimum and efficient care, and that they benefit from greater continuity of care relationships with their major providers. This type of care is still a long way from the fragmented episodic care that the Australian health system (as well as many others) tends to provide at present. These pressures require changes to the current structure of service delivery, rather than cementing funding arrangements that assume hospitals will remain as hospitals function today, and primary care as the range of services currently provided.

A central aim of a well-coordinated and integrated care system is to manage complex chronic diseases at the earliest possible point and prevent patients from escalating down a path of ill-health and higher costs. The problem is that the incentives inherent in the current funding and financing arrangements are not aligned to such provision of care. The Commonwealth Government is concerned with containing its own expenditure (e.g. the various editions of the Intergenerational Report are written from the Commonwealth point of view) with little regard to broader health system implications. State and Territory Governments, on the other hand, are very concerned because they are becoming increasingly responsible for providing care for complex patients who need to be treated in hospitals. State and Territory Governments are acutely interested in reducing the overall demand on hospitals. However, they have limited resources and policy instruments to effectively reduce that demand. In a large part they are beholden to the effectiveness and efficiencies of the primary health care system, over which they have negligible control. The incentives in the current system offer few financial rewards for any one funding source (or provider) to take a more comprehensive perspective of a patient's health needs over their lifetime and intervene at the most appropriate time.

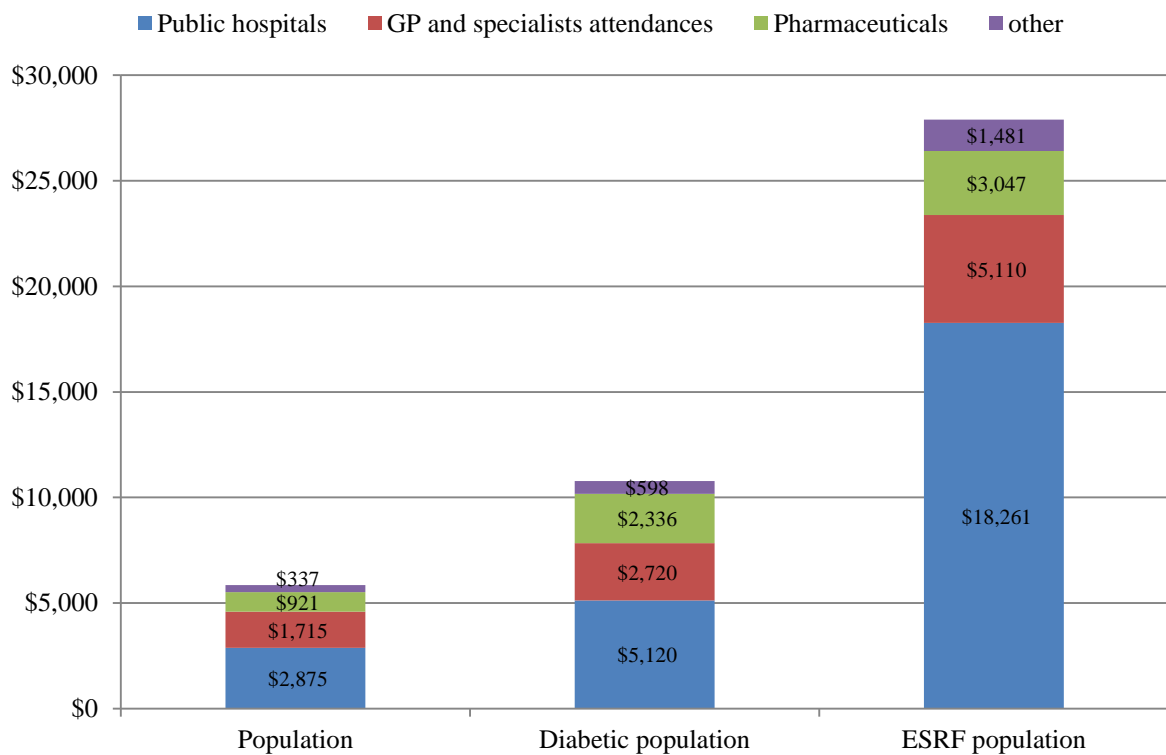
Figure 9 illustrates the problem of escalating health care costs and changing health sector responsibilities. It shows that annual health care costs almost double when patients are identified<sup>3</sup> as having diabetes compared to overall population costs (average annual health care costs of \$10,774 and \$5,848, respectively). Annual health care costs more than double again if patients go on to develop end-stage renal failure (ESRF); a potential complication of

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<sup>3</sup> Patients were identified as being diabetic through their use of MBS items related to HBA1C testing and use of diabetic medications claimed through the PBS

diabetes. These figures are based on the Sax Institute's, NSW-based, *45 and Up Study*, using linked administrative data. Importantly, the increase in health care costs is accompanied by a shift in health care responsibilities. For patients with ESRF the annual public hospital cost is around \$18,000, compared to an annual cost of \$2,875 for the overall *45 and Up* population and \$5,120 for patients with diabetes. These figures show that as patients escalate down the path of chronic diseases and complications, health care costs tend to fall more heavily on public hospitals. This also signifies a change in funding responsibility towards the states and territories.

**Figure 9. Annual per capita health care costs by sector for the population aged 45 and over, patients with diabetes and end-stage renal failure, 2011**



Source: Sax Institute (2015)

## SUSTAINABLE HEALTH CARE FUNDING: RECENT INTERNATIONAL EXPERIENCES

The challenges facing Australia are not unique. Many countries are facing a similar dual challenge of rising health expenditure and constrained revenue growth. For some, this issue came to a head following the onset of the global financial crisis (GFC) when public revenues fell sharply. In response, many European countries (and some non-European) introduced health and fiscal reforms which impacted on the health system and services. Even when proposed changes are not specifically related to a recession (as was the case in Australia), the range of responses to an economic downturn and, more importantly, the impact of changes in funding and financing arrangements on health, access to services, and overall efficiency and sustainability of the health system, can provide important lessons for policy and decision makers generally.

Health care became a target for large-scale austerity measures during the time of the GFC, particularly in those countries where health care spending growth prior to the crisis had been high. An important lesson from the GFC is that countries whose fiscal position was more robust and whose health systems were well prepared were able to cope more easily with economic crisis. These types of countries were able to continue implementing changes planned prior to 2008 and were not forced to make radical changes to either statutory benefits packages or the breadth of population coverage (van Gool and Pearson, 2014).

Estonia is a good case study of preparedness to manage risks. Two-thirds of the country's health expenditure is financed through the Estonian Health Insurance Fund (EHIF) which is primarily financed through dedicated pay-roll taxes. To ensure the EHIF's solvency, it has three reserves including the mandatory reserve, to manage risk from macroeconomic changes. This reserve is created by transferring at least 2 percent of the budget to the reserve every year and is set at 6 percent of total EHIF budget. It can only be used after a government order upon the recommendation of the relevant Minister (Lai et al, 2013). The recession hit Estonia hard, with a contraction in GDP of more than 15 percent in 2009-10. The EHIF reserves were called upon to countenance the 10 to 15 percent fall in revenues. Whilst health care austerity measures were still introduced in Estonia, these were in line with broader pre-crisis objectives to fulfil Eurozone criteria. The ability to draw on reserves prevented the need for more severe austerity measures in health.

Increases in taxes are one way in which health system revenue may be increased. The Australian Medicare levy is an example of a specific income tax intended to help finance the health system. France introduced a tax on some sources of income specifically to finance social security (including health) expenditure (2% in 2009, increased to 4% in 2010 and 6% in 2011). Although governments' capacities to raise additional revenue are limited, particularly during an economic downturn, several countries introduced new financing arrangements to broaden revenue bases and create greater flexibility and equity in financing health care (van Gool & Pearson, 2014). Ireland introduced the universal social charge (USC) in 2011, a progressive tax ranging between 2 and 7 percent of annual earnings. The USC is payable for those with incomes over €10,036 and the rate levied depends on income level and

age. The USC replaces the proportional health levy which was an earmarked health tax set at 4 percent of income (2% prior to 2009) (Briggs, 2013). In Portugal, pensioners' contribution to the public sector's insurance fund was increased and in Greece, civil servants now contribute 5.1 percent of their salary towards social health insurance, which was previously met through the state budget. Some countries increased the tax rate on goods and services, and some increased the rate on some health care products. Greece, for example, increased their goods and services tax on medicines from 9 to 11 percent, before reducing them to 6.5 percent in 2011. The UK increased the tax on over-the-counter medication to 20 percent (from a reduced rate of 15%) (Vogler, Zimmermann, Leopold, & de Joncheere, 2011).

A number of countries have also imposed higher taxes on goods such as alcohol and tobacco. The emphasis of these measures has been placed on their potential health benefits. For example, Estonia increased tobacco and alcohol levies, although this continued a previous trend to raise prices for these goods. Several OECD governments increased existing taxes or introduced new taxes on foods high in salt, sugar or fat in the past few years. Hungary introduced a tax on such products in 2011. Not all these measures are GFC specific and may, in fact, be part of on-going health promotion reforms; nevertheless in countries such as France and Hungary, they provide additional revenues for health and social services (Sassi, Belloni, & Capobianco, 2013).

Increases in taxes on specific goods are regularly mandated in Australian budgets. Demand for many of these products is relatively inelastic, implying that a fall in the quantity consumed is relatively small compared to scale of the tax revenue. Such taxes can therefore be a substantial source of fiscal revenues. It is important to note that taxation policies intended to change demand are unlikely to result in immediate or short-term impacts on the health system; changes in behaviour such as smoking, eating, drinking and exercising are more likely to have long-term impacts on the demand for and cost of healthcare.

Another means of reducing demand for health services may be via the promotion of better health or the use of preventive health services. While this has immediate 'common sense' appeal, evidence has shown that the cost-effectiveness of preventive strategies is as mixed as treatment interventions, and any return on investment may not be realised except over a long time frame (Hall, 2011). However, only a few countries responded to the GFC by providing enhanced funding for policies intended to increase healthy behaviours (healthy eating, increased exercise, higher rates of participation in screening).

A common policy response to the GFC was to cut costs by reducing the salaries of the health workforce, freezing them or lowering their rate of increase or reducing staff numbers. Australia has also implemented similar policies. For example, during the mid-1990s the government changed indexation arrangements for many MBS rebates, including those for General Practitioners (GPs). In the Australian health system, where there is little government control over doctors' fees, such actions can lead to an increase in co-payments for patients. Research has established that such increases in OOP costs impact inequitably on those least able to afford them (e.g. the poor, disadvantaged and chronically ill) resulting in their using fewer necessary services and thus increasing the potential that they will present with more

advanced illness, necessitating the use of more costly services, including admission to hospital (Tamblyn, Laprise, & Hanley, 2001).

It has become popular in Australia, as in some European countries, to finance capital investment (particularly new hospitals or specialist treatment centres) through a form of market competition termed Public-Private Partnerships. This type of arrangement may reduce published government debt but does not necessarily reduce health system costs or increase efficiency in the long term. More immediately, the use of different administration and other systems in public and private facilities may act as a barrier to collaboration between facilities offering complementary services.

In common with many countries, Australia's health system entitles all citizens and residents to receive subsidised care (some of which is free at the point of its delivery). In response to the GFC, some countries reduced the proportion of the population entitled to be covered for statutory benefits or postponed the expansion of population coverage. Still others expanded the level of coverage at this time, usually as a result of ongoing policies in this respect, rather than as a response to the crisis.

Over time, there have been discussions in Australia about whether to "means test" eligibility to Medicare or allow wealthy individuals or households to "opt-out" of Medicare, not pay the Medicare levy and rely instead on their private health insurance. Evidence from countries such as The Netherlands and Germany where such measures have been implemented suggests that the combination of loss of revenue from wealthier households and the increase in the proportion of older, poorer and sicker people requiring public health care (due to adverse selection) does not alleviate fiscal pressures and may add to them. Also, private health insurance in Australia does not cover every aspect of health care - such as emergency care and primary care, both of which are important in terms of ensuring equitable access to care.

## CONCLUSIONS

Australia is neither a highly taxed country, nor a high health care spending country, relative to its OECD peers. Within this context, the financing of the Australian health care system now faces significant challenges. Foremost amongst these include the following:

- Rising health care costs due to the ageing population, rising incomes and expectations, and more expensive technologies and services. In addition, more complex and chronic health needs will shift service demands from episodic treatment to integrated care between service providers and over time.
- A tax base which favours individual income taxes, and which will shrink as the dependency ratio (of elderly to working-age individuals) grows. This shifting tax burden introduces significant issues of inter-generational equity.
- Growth rates in health care expenditure thereby continuing to outstrip that of revenues, and increasing reliance on OOP and PHI financing.

Given these significant challenges there is a need for a public debate on how Australia's health care financing and funding can play a constructive role in delivering more efficient and equitable care, and in ensuring equity in the financial contributions made towards that care. Underpinning the debate must also remain the principles of Medicare: of sharing the cost of health care according to one's means, and accessing health care according to need. Given the distribution of health and ill-health throughout the population, pooling of risks must also remain an inherent feature of managing revenues and expenditures. This requires a broader debate about financing that goes beyond the standard Commonwealth, state and territory arguments, including (i) the potential impact of any Commonwealth/State reforms on OOP costs; and (ii) the role of PHI.

The context of the current GST debate is that the 2014-15 Federal Budget substantially reduced the Commonwealth's expected contribution to public hospital funding over the period of the forward estimates. As a result of this change, State and Territory Governments have started to examine alternative sources of revenue to meet their expected short-fall in health funding; particularly in the area of public hospitals. As the revenues of the GST goes directly to the states and territories, a rise in the GST rate is widely seen as a mechanism to overcome the shortfall in public hospital funding. The current debate is thus framed in terms of the States and Territories' need to support growth in public hospital costs. This risks repeating mistakes of the past. Whilst a rise in the GST will increase revenues, it will also reinforce existing structures and the separation of funding for public hospitals separately from primary care. It will not provide incentives for integrated care.

An argument about whether this is a State responsibility – to provide an alternative to inpatient care – or a Commonwealth one – to encourage new types of primary care – is futile when what is needed is a new approach to integrating care. For this reason, decisions about how to best raise revenues and how to allocate these to different parts of the health care system should be considered separately from whether they lie within the jurisdiction of the Commonwealth or the States and Territories.

There are a range of public revenue instruments (beyond the GST) which can be considered. Some of these are already being implemented. For example, increases in the age of pension eligibility may lift workforce participation among the elderly and thereby reduce pension expenditure as well increase income tax revenues. However, there are other taxation instruments that are worth consideration; particularly those that directly address the intergenerational tax issues that arise from rising dependency ratios. Such measures as (re)introducing superannuation benefit taxes or tapping into accumulated wealth could lift the tax incidence among the elderly. In addition, there are instruments that allow for greater revenues to be collected during the working years such as the accumulation of sovereign medical savings accounts. The impact of the efficiency of and equity of access to health services must be considered alongside the efficiency and equity of revenue-raising.

Funding and financing reforms cannot stop at the point of ensuring that the health system has sufficient revenue. Funding and financing reform is also integral to developing a more coordinated and integrated health care system. Such reforms need to be underpinned by the recognition that no single entity is currently accountable for the delivery of a patient's health care needs and that the incentives facing the agents of health delivery (predominantly the various health care professionals) do not reward them for providing better patient outcomes and improve system efficiency. Current institutional arrangements are a barrier to coordinated care. This is why the *Reform of the Federation* needs to open the debate about improving the alignment of interests of all stakeholders within the health sector to achieve better health outcomes at a reasonable cost, rather than take a narrow focus on Commonwealth and State responsibilities.

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**AHHA Pathways to Reform series**

**Primary Health Networks as a disruptive force for  
positive change**

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**A report prepared for the Australian Healthcare and Hospitals Association**

**by the Centre for Health Economics Research and Evaluation**

**University of Technology, Sydney**



## About CHERE

CHERE is an independent research unit affiliated with the University of Technology, Sydney. It has been established since 1991, and in that time has developed a strong reputation for excellence in research and teaching in health economics and public health and for providing timely and high quality policy advice and support. Its research program is policy-relevant and concerned with issues at the forefront of the sub-discipline.

CHERE has extensive experience in evaluating health services and programs, and in assessing the effectiveness of policy initiatives. The Centre provides policy support to all levels of the health care system, through both formal and informal involvement in working parties, committees, and by undertaking commissioned projects.

This paper has been commissioned by the Australian Healthcare and Hospitals Association (AHHA), as part of the AHHA series, Pathways to Reform.

For further details on our work, see [www.chere.uts.edu.au](http://www.chere.uts.edu.au).

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## KEY POINTS

From 1 July, 2015, 31 Primary Health Networks (PHNs) are being rolled out nationally. There have been more than two decades of regional health reform, commencing with the introduction of Divisions of General Practice in 1992, followed by their replacement by Medicare Locals in 2011. Despite these changes, there is scant evidence that progress is being made towards an effective, efficient, accessible, comprehensive and coordinated primary health system.

The latest set of reforms should be grasped as yet another opportunity to drive positive change. However, to be successful, PHNs will need to operate within the context of major system level challenges. These include the following: the complexities of Commonwealth and State/Territory responsibilities and funding models; increasing fiscal pressure; occupational and sectoral boundaries; the management of incentive structures; and a lack of data infrastructure. Mindful of such challenges, this paper identifies the following three significant opportunities for PHNs to become disruptive forces for positive change.

### **Proposal 1: Commissioning the delivery of care for vulnerable people with multiple chronic conditions**

Chronic diseases are the leading cause of illness, disability and death in Australia. Appropriate care for people with multiple chronic conditions requires multidisciplinary teams of health and social care professionals to be embedded in the primary health system. It is proposed that PHNs be given the role of budget holders to fund the management of care for vulnerable people with multiple chronic conditions. PHNs would need to commission local agencies to contract the delivery of long-term coordinated care to preferred consortiums of providers, including relevant health and social care professionals.

### **Proposal 2: Managing the coordination of hospital discharge and community-based care**

The interface between acute care and primary care is important for improving patient experience and reducing preventable hospital admissions, but remains one of the least well-managed transitions in the health system. It is proposed that PHNs be given the role of budget holder for those community-based health care services which deliver post-discharge care. PHNs would commission appropriate broad-based institutions (in most cases hospitals) for the delivery of that care, and the commissioned agents would then contract preferred providers across the full range of community-based medical and health care services, and be responsible for the care outcomes of the patients.

### **Proposal 3: Driving the uptake and utilisation of e-health**

E-health systems are considered central to current efforts to optimise primary care, by targeting three closely linked areas of need: improving the management of chronic care; encouraging broad-based general practice or team-based care; and better care co-ordination, including across the hospital/community care transition. To support this, it is proposed that PHNs encourage a greater take up of e-health through initiatives such as patients registering with their regular GP for services including health monitoring, screening and care coordination, and that general practice accreditation standards be progressively strengthened.

## INTRODUCTION

The Centre for Health Economics Research and Evaluation (CHERE) has been commissioned by the Australian Healthcare and Hospitals Association (AHHA) to write two papers as part of the Association's series on *Pathways to Reform*. The series will contribute to public debate during the development of the Australian Government's White Papers on *Reform of the Federation*, and *Reform of Australia's tax system*. This is one of two papers produced by CHERE – the other addresses health system funding models.

The purpose of this paper is to offer an agenda by which the Australian Government's newly created Primary Health Networks (PHNs) can act as a disruptive force for positive change of the healthcare system. The paper has adopted, as a working definition of 'disruptive force for positive change', not only the ability of PHNs to cause major discontinuous changes in the core business processes of health care providers, but also to reframe the disruption as an opportunity to achieve significant gains for health care consumers, providers and the health system more generally.

As a later section of this paper will demonstrate, the replacement of Divisions of General Practice by Medicare Locals, and they in turn by PHNs were disruptive changes, but there was little attempt at reframing or promoting the opportunities arising from the change while minimising the costs of transition. It bears noting that any changes, particularly those relating to the allocation of responsibilities, should be guided by the six principles set out in the Federation White Paper Terms of Reference: accountability; subsidiarity; national interest considerations; equity, efficiency and effectiveness; durability; and fiscal sustainability (Australian Government, 2015, p. 14).

As a basis for setting the agenda for PHN-led disruptive change, the paper: commences by summarising the core design features of strong primary health care systems; draws out the lessons learnt from regional primary health innovation in Australia over the past three decades; and considers the system level challenges facing PHNs in the delivery of equitable, efficient and affordable patient-centred healthcare.

The paper then identifies major and expanding gaps in primary health care delivery. Australian and international experience is drawn on to develop a targeted agenda for PHN driven disruptive change which could achieve greater system effectiveness, efficiency, equity and sustainability. The following three areas have been targeted:

- the delivery of care for vulnerable people who have multiple chronic conditions
- the coordination of hospital discharge and post-discharge community-based care
- the uptake and utilisation of e-health.

## CORE ELEMENTS OF STRONG PRIMARY HEALTH CARE SYSTEMS

Over the decades, the architects of health care reforms in Australia and internationally have proposed laudable objectives for their reforms and heralded new system designs as being in accord with best practice.

The most recent instance in Australia was the Commonwealth's 2014-15 Budget announcement that the 61 regional Medicare Locals were to be replaced by a smaller number of (ultimately 31) Primary Health Networks (PHNs). The key objectives of the new PHNs were described as being to (Australian Government Department of Health, 2015):

- increase the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and
- improve the coordination of care to ensure patients receive the right care in the right place at the right time.

Many other countries have also pursued reform agendas to improve the delivery of primary health care. As far back as 1978 the Declaration of Alma-Ata emphasised that primary health care is an essential and integral part of a country's health system and of the overall social and economic development of the community (WHO, 1978).

Evidence from researchers such as Barbara Starfield has demonstrated the positive impact that quality primary care has on a community's health (Starfield, 1998). In analysing reasons for the relatively poor health of the United States population, Starfield concluded that, notwithstanding the complexity and multifactorial nature of those reasons, "From a health system viewpoint, it is possible that the historic failure to build a strong primary care infrastructure could play some role" (Starfield, 2000, p. 483).

While there may not be a consensus on a single set of design features for a well performing primary health care system, the literature points to the following five elements as being core (Kringos, Boerma, van der Zee, & Groenewegen, 2013; Kringos, Boerma, Hutchinson, van der Zee, & Groenewegen, 2010; Wakerman et al., 2009):

1. **Accessibility:** the ease of access to primary care services, with respect to geographic and financial accessibility.
2. **Comprehensiveness:** the breadth of services available in primary care (including preventive care).
3. **Continuity:** the set of conditions enabling enduring doctor-patient relationships.
4. **Co-ordination:** the ability of primary health care providers to co-ordinate patients' use of other parts of the health system.
5. **System structure effectiveness and efficiency:** this umbrella category captures the range of policy settings and regulations that address funding, workforce development and training, incentive structures, and policies on the distribution of services and coverage.

Across all five elements, regional level primary health networks can play valuable contributory roles according to their regions' needs. For instance, while governments play a major role in determining the accessibility and comprehensiveness of services, regional networks may be

tasked to assess, monitor and report on the adequacy of those services within their own region. Additionally, they may be funded to commission services to meet regional needs.

With regard to encouraging continuity of care and ongoing relationships between patients and providers, regional organisations could play a direct role, such as in facilitating patient registration, or could have an important supportive role in matters such as encouraging the uptake of electronic health records.

Service coordination is another core element, and together with the development of health care teams, it plays an increasingly important role across the health system. While general practitioners provide much primary medical care, there is an increasing need for the coordinated and integrated involvement of allied and nursing health providers (and personal carers and social support as necessary) in health care teams. This is especially true for vulnerable patients, being those who have an increased susceptibility to health and health care disadvantage due to a combination of individual and environmental factors. (Grabovschi, Loignon, & Fortin, 2013). Regional primary health networks can play a variety of roles, particularly in terms of the coordination and integration of services into health care teams, depending on the powers and resources that they control.

A design feature that underlies any system structure, and is essential to the overall performance of that system, is that of incentives. The incentives (professional, pecuniary and other) drive the behaviour of the multiplicity of participants in the system – consumers, GPs and other providers, administrators, funders, educators etc. The incentives need to be sufficiently aligned to prevent system failure; even where other design features may approach best practice.



# PRIMARY HEALTH CARE REGIONAL NETWORK REFORM

The Australian primary health care system has been subjected to government-initiated reform stretching over more than two decades. They have aimed, in part, to address complexity, fragmentation, poor coordination and misaligned incentives. The newly created Primary Health Networks (PHNs) are the third major initiative aimed at improving the performance of primary health networks at a regional level. This section draws out the lessons learnt from the key achievements and failures of reforms to date.

Up until the 1980s the general practice sector was frequently described as a *cottage industry*, with many private solo practitioners providing stand-alone services. A common criticism was that general practices were not well connected to, or coordinated with, other sectors of the health care system, and that the general lack of innovation in the sector meant that it failed to keep up with the changing health care needs of the population (Weller & Dunbar, 2005). The sector also failed to adopt new information and communications technologies that would have potentially given providers a greater capacity to provide high quality evidence-based care and be part of a comprehensive and coordinated service.

In part, the failure to innovate was seen to be symptomatic of the incentives underlying Australia's reliance on a fee-for-service payment system, whereby providers are rewarded for the volume of direct, largely episodic, patient care, without needing to coordinate the patient's overall care experience.

## 1992 – Divisions of General Practice

The mounting concern about GPs operating in isolation from each other and from the broader health system led to the National Health Strategy review (1992) and the General Practice Consultative Committee, both of which concluded there was a need for (Scotton, 1998):

- the establishment of new general practice agencies through which general practices would be involved with each other and other health professionals in more comprehensive community-oriented functions; and
- supplementation of fee income with practice-based payments to cover and incentivise the provision of services other than those delivered to individual patients.

The establishment of the Divisions of General Practice (DGPs) in 1992 marked the first major structural reform in the provision of health care since the introduction of Medicare in 1984. The objective of the DGPs Program was to “improve health outcomes for patients by encouraging general practitioners to work together and link with other health professionals to upgrade the quality of health service delivery at the local level” (Department of Health and Aged Care, 2000, p. 210).

There were around 120 geographically based Divisions across the nation, eight state-based organisations (SBOs) which were tasked with building the capacity of local Divisions and linking with state governments, and an overarching national leadership organisation, the Australian Division of General Practice (ADGP), which disseminated new innovations and their

evaluations. The DGPs supported general practitioners and promoted continuity, coordination and integration with the health system more broadly (Scott & Coote, 2007).

While the rationales for the subsequent Medicare Locals (MLs) and PHNs have amended and extended, but not replaced, this original purpose, the organisational structures have replaced, rather than amended and extended, these original DGPs. This disruption has come at a cost, not only financial but also in terms of lost human and social capital.

During this time the Australian Government introduced a Better Practice Program in an attempt to change the incentives inherent in the fee-for-service funding model. General practices received grants if they satisfied a number of operational criteria, including ensuring patient continuity. However, these grants were of low value and had little impact on the underlying business incentives. Following concerns about the low take-up of the program, it was replaced in 1998 by the Practice Incentives Program (PIP) (Russell, 2013).

The PIP has provided incentives to registered practices for: establishing electronic information management; providing after hours care; operating in rural areas; hosting undergraduate students; and the quality use of medicines. Subsequent expansions of the program have included incentives for: evidence-based care of diabetes and asthma; cervical screening; the employment of practice nurses; mental health; domestic violence; GP aged care access; e-health; and Aboriginal and Torres Strait Islander health incentives.

A number of reports on these initial endeavours were not favourable (Russell, 2013). The Productivity Commission (2003) was critical of the high administrative and compliance costs associated with PIP and a report by the Australian National Audit Office concluded that the management of the PIP was complex due to the diverse range of incentives and the entry requirement to receive PIP incentives, particularly for Aboriginal Medical Services (AMSs) and smaller practices (Australian National Audit Office, 2010). In an international comparison of payment systems, Cashin et al (2014) observed that there was only limited evidence that the Australian PIP program had impacts on quality of care and outcomes that justified the costs of the program.

These programs represent attempts at re-organising some of the funding of primary care by targeting the sector with financial incentives around the way care is provided, the functions performed and the pathways developed. Many of the incentives are directed at practices, rather than practitioners, thus adding to the leverage of the practices over the care delivered by the practitioners. At the same time, there has been an increase in the average size of practices and a rise in corporatisation of medical practices. The engagement of practice managers, whose incentives, in general terms, could be characterised as being to maximise the profitability of the practice as a business, has encouraged a focus on maximising practice income, and to understanding the charging patterns of their GPs, with a view to encouraging the highest net returns for the practice.

Separate from the question of program efficiency, an analysis of the role of the DGPs (funded by the Divisions) found that they were highly influential across a number of outcome measures (Scott & Coote, 2007). This included having a positive influence on the proportion of PIP

practices signed on for asthma, cervical screening, diabetes, and care planning. A Department of Health and Ageing review also reported the positive contribution of DGPs to improving the coordination of health service delivery to the community, and to health outcomes (Weller & Dunbar, 2005). At the same time, there was recognition that there was a diversity of roles and a variation in the performance of Divisions across the country and that this required a high level of scrutiny and accountability.

### 2011 – Medicare Locals

A 2009 review of Australia’s health system by the National Health and Hospitals Reform Commission sought to reduce its complexity by better delineating state and Commonwealth responsibilities and by centralising responsibility for primary health care at the national level (including dental and aged care) (National Health and Hospitals Reform Commission, 2009). The Commission recommended that:

*Service coordination and population health planning priorities should be enhanced at the local level through the establishment of Primary Health Care Organisations, evolving from or replacing the existing Divisions of General Practice. (Recommendation 21)*

Rather than facilitating an evolution of the DGPs, the Labor Government ceased funding them in 2011 and replaced them with 61 primary health care regional organisations known as Medicare Locals. The priority objectives for MLs were not dissimilar to those of the DGPs. Medicare Locals were to: improve access and reduce inequity; better manage chronic conditions; increase the focus on disease prevention; and improve quality, safety, performance and accountability. MLs were tasked with improving integration between primary and hospital care and identifying local health needs, in part by coordinating with the Local Hospital Networks.

MLs were also the key vehicle for the rollout of the government’s e-health initiative. Launched in July 2012, the Personally Controlled Electronic Health Record (PCEHR) system aims to provide an online summary of an individual’s health information (including diagnoses, allergies and medications) and be accessible to the patient, healthcare providers and hospitals (Department of Health, 2013). The current poor reach of the PCEHRs, and corrective Government initiatives announced in the 2015-16 Budget, are explored later in this paper.

### 2015 – Primary Health Networks

An implementation review of MLs, carried out in 2013-2014, concluded that “Most MLs were making good progress towards their five strategic objectives and are satisfied with their progress and achievements. These involved extending former Division activities (e.g. practice support) and taking on entirely new tasks (e.g. population health planning).” And, “They operated differently in different areas, especially in urban as compared to rural or remote areas.” (Department of Health, unpublished, pages 2 and 41<sup>4</sup>). Significant issues and challenges which were identified in the review included the breadth of the objectives, the lack of a clearly defined

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<sup>4</sup> The report entitled “National Evaluation of Medicare Locals” is unpublished, but is available under the Department of Health’s Freedom of Information disclosure log [here](#).

vision and changes in the environment which were leading to the expansion of primary health care beyond GPs and general practice.

A subsequent 2014 review of Medicare Locals (Horvath, 2014) commissioned by the incoming Coalition Government concluded that the achievement of their intended objectives was mixed. This review highlighted the following needs:

- To increase collaboration between health professionals and services in order to reduce the fragmentation of care.
- To increase the engagement of GPs, particularly within the network's governance and operational structures.

The Government subsequently announced that Medicare Locals would be replaced and that there would be a tendering process for the establishment of PHNs. As noted earlier, the objectives of the PHNs are to: increase the efficiency and effectiveness of medical services for patients, particularly those at risk of poor health outcomes; and improve coordination of care to ensure patients receive the right care in the right place at the right time" (Department of Health, 2014). These objectives are, arguably, yet another variation on the theme initially developed for DGPs.

PHNs were rolled out across 31 regions from 1 July, 2015. (A map of the PHN regions is at Appendix A.) According to Department of Health, they are expected to achieve their objectives by (Department of Health, 2014) :

- understanding the health care needs of their communities through analysis and planning
- providing practice support services so that GPs are better placed to provide care to patients and help avoid emergency department presentations and inappropriate hospital admissions
- supporting general practices in attaining the highest standards in safety and quality through showcasing and disseminating research and evidence of best practice
- assisting general practices to understand and make meaningful use of e-health
- working with other funders of services and purchasing or commissioning health and medical/clinical services for local groups most in need.

The Government cited, as factors likely to contribute to the achievement of these objectives, the alignment of PHN and Local Hospital Network boundaries and the consortium of stakeholders within many new PHNs (Ley, 2015).

As set out in the grant programme guidelines, PHN funding will be provided through four streams (Department of Health, 2014):

- operational funding for the operation and governance of the PHNs
- flexible funding, to respond to national and region specific priorities by purchasing/commissioning required services
- programme funding determined by the Government

- innovation funding to enable the Government to invest in new models of primary health care delivery that, if successful, can be rolled out in other regions, and incentive funding for high performing PHNs<sup>5</sup>.

The extent to which PHNs will be able to undertake disruptive reform is as yet unknown across many dimensions, including the quantum of funding to be made available to invest in innovation; the criteria by which innovative projects will be assessed; the level of active and positive cooperation from the various stakeholders; and the extent of control exercised by the Department of Health and the Minister when reforms challenge vested interests. There is as yet scant public information on these matters.

## **SYSTEM-LEVEL CHALLENGES FACING THE PHNS**

As was the case with the introduction of the Medicare Locals, the Government created the new PHNs on the basis that they would overcome the weaknesses of their predecessors. The historical legacies of the structure of, and incentives embedded in, the Australian health system pose significant challenges to PHNs, challenges which have dogged the Medicare Locals and the DGPs before them.

These system-level challenges form an important context for identifying opportunities for the new PHNs to be a disruptive force for positive change. There is an extensive body of literature on each of the following, and the issues are only presented here in summary form to provide relevant context to the reform proposals detailed later in the paper.

- As the Federation White Paper process is seeking to address, the complexities of state and Commonwealth responsibilities and funding models have created administrative barriers; unclear and poorly accountable funding flows and service delivery pathways; and incentives to cost-shift. The system as a whole (primary and acute care collectively) has no overarching governance structure which can ensure the following: accessibility to services; the comprehensiveness of the services; the continuity of doctor-patient (and other health professional) relationships; coordination of patients' use of other parts of the health system; or an effective, efficient, equitable, transparent and durable system.
- PHNs will need to operate in the context of increasing fiscal pressure. This is generated largely by rising service demands and associated contributory factors such as population ageing, income-related rising demand and expectations, and an ongoing shift in the burden of disease toward multiple chronic conditions.
- The fee-for-service payment structures have unintended consequences such as over or under-used GP activities, and provide little incentive to improve linkages to acute care, allied health or social care.
- There are highly entrenched boundaries between occupations. These are borne of longstanding differences in education and training models, licensing and registration and resourcing/funding. Equally, the associations which represent many of the practitioners can be strong advocates of existing privilege in the face of reform. Shifts towards more

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<sup>5</sup> The arrangements for innovation funding, including funding levels, have not yet been formalised and require clarification.

multidisciplinary team-based care requires careful system design to bridge these differences, including defining responsibilities, accountabilities, and referral and reward incentives.

- Despite the progressive rollout of data infrastructure initiatives, there remains a lack of measurement and reporting of key performance metrics which would help providers and PHNs benchmark the quality of their services against others. These measures include indicators of patient experience and outcomes, uptake of good practice and administrative processes, and indicators of activities such as preventive care and chronic disease management. Without this broad range of data, it will remain difficult to adequately monitor or improve the quality of care.
- Each of the policy shifts from Divisions of General Practice to Medicare Locals and then to PHNs has had a distinct political element. Policy stability and confidence in investing in the future is greatly diminished in the current environment of limited bipartisan support on health policy.

These system-level challenges are both longstanding and of a whole-of-system nature, as are other issues such as the poorly defined role of private health insurance and the lack of policy and program coherence between physical health, mental health, disability and aged care.

Opportunities to overcome some of these issues include PHN collaboration with Local Health Networks and engagement with the States and Territories. The particular ownership consortiums of some PHNs (such as LHNs and state health agencies) may facilitate this more in some cases than in others, but may also diminish the capacity of PHNs for independent innovation.

The challenges set the context for an agenda of opportunities for the new PHNs (individually and, potentially, collectively) to undertake positive and meaningful change to the delivery of effective, efficient, equitable and sustainable primary health care.

Lessons are also drawn from international case studies to inform the selection of reform proposals. The case studies illustrate how other countries have made use of various forms of regional networking to improve overall primary health care system performance. The paper references a series of reports from the Organisation for Economic Co-operation and Development (OECD) entitled the “OECD Reviews of Health Care Quality” as well as other academic literature. The countries have been chosen for the diversity of their policies, practices and institutional arrangements and for the benchmarks they set for a number of system design features that can assist regional networks to drive positive and meaningful change.

The following table sets out, in summary, the main design features of selected countries in relation to whether there is a strong primary care system, local/regional primary care organisations, responsibility for coordination/integration and quality monitoring, funding and incentives and integration across the system.

## How care is integrated in selected countries

Country	Strong primary care system	Local/ regional primary care organisation	Responsible for co-ordination/integration quality monitoring	Funding/incentives	Extent of integration
New Zealand	Yes – GPs as gatekeepers	PHOs: non-profit	Yes	PHOs funded by District Health Boards GPs capitation Incentives not aligned	90% enrolment with GPs Variation across PHOs in what is done Little evaluation of outcomes
Denmark	GPs play central role as gatekeepers but only 20% doctors are GPs	Contracted to local government; regions then contract with municipalities	Co-ordination – Not clear. expected to be GPs; principle supported by nationwide agreements between GPs and regions Monitoring – contracted to University, advanced collection and access and quality assessment focused on hospital care	GPs paid by capitation + ffs Regions/municipalities fund multidisciplinary clinics	System fragmented Major differences in activities and approaches across areas poorer outcomes compared to similar countries
Israel	Physician led clinics are central, gatekeepers	No - 4 health funds in managed competition	Co-ordination – yes Monitoring – yes	Age/sex/residence based capitation to health funds which then use different payment methods for GPs Contracts focus on payment method rather than quality/appropriateness	Reported fragmentation across different providers OECD assessment – needs improvement
England	Yes. GPs as gatekeepers and budget holders	Clinical Commissioning Groups GP led GPs contract with NHS England	Co-ordination: CCGs. Monitor and NHS England in 2012 Act Monitoring: through QOF	GPs paid by mix of capitation, ffs and pay for performance (QOF) More emphasis on access than integration in QOF	Recent reforms to align health and social care through local health and wellbeing boards New ‘Pioneer’ integration pilots
Germany	Traditionally regarded as weak Predominance of solo practitioners Some limited registration/gate keeper	Provincial governments Regional associations of physicians Sickness funds Typified as ‘joint self-government’	Sickness funds play major role by implementing DMPs (co-ordination of ambulatory care) and chronic disease management (primary and secondary care) Contracts with providers uniform across funds	Funds receive risk adjusted capitation + per capita costs for patients signed to these programs	Participation is voluntary. DMPs agreed at national level based on evidence. 8% insured are enrolled – but not all insured are eligible
Netherlands	GPs as gatekeepers Registration	Insurance funds are important but not regionally organised	National approaches to monitoring quality	Bundled payments for some chronic diseases From 2015 GPs paid by capitation + ffs set by the National Authority; chronic disease management program negotiated with insurers.	Initial evaluation showed improved organisation and co-ordination but no evidence of improved outcomes

## OPPORTUNITIES FOR PHN-LED DISRUPTIVE CHANGE

From the analysis of primary health system design, the lessons of past regional network innovation and the system-level challenges facing health care, as set out in the preceding sections, the paper identifies three increasingly significant gaps in primary health care delivery that provide opportunities for PHNs to undertake disruptive change. They are:

1. Commissioning the delivery of care for vulnerable people with multiple chronic conditions.
2. Managing the coordination of hospital discharge and community-based care.
3. Driving the uptake and utilisation of e-health to achieve greater effectiveness and efficiency in health care delivery.

In addition to the need for, and merit of, each change, there are very strong interdependencies between them. Tackling all three in a very deliberative manner will produce significantly greater outcomes than tackling one or more individually.

Prior to analysing each of the three individually, however, it is worth referring to a governance issue that will play an important role in whether the changes are successful. This is the issue of incentives.

### Incentives

The Government has been very clear that it expects that PHNs will predominantly commission the delivery of services from others rather than directly deliver those services. As such, this sets up principal-agent relationships between a PHN and the entities it contracts with to be a service deliverer (with further such relationships if that agent is itself an intermediary between the PHN and the ultimate service delivery agent such as a GP, nurse practitioner or allied health practitioner).

This paper assumes that the incentive structure driving PHNs is that they have a defined budget, they face a demand for services in their region that exceeds their funding capacity, they gain no benefit from favouring quantity of treatment over quality and they gain no benefit from generating a financial surplus. It is assumed that this will motivate them to fund a level of care to the greatest number of people in the greatest need with the least possible resources consistent with ensuring the safety and quality of that care. As the Australian Health Ministers' Advisory Council made clear in 2005:

*... wherever possible, services should be delivered by staff with the most cost-effective training and qualification to provide safe, quality care* (Australian Health Ministers' Advisory Council, 2005, p. 9).

However, it is not immediately clear that the incentives facing the PHNs are shared by their two subordinate bodies. On the one hand, GP-led Clinical Councils are delivery-oriented. They are to focus on developing “local strategies to improve the operation of the health care system for patients in the PHN, facilitating effective primary health care provision to reduce



avoidable hospital presentations and admissions” (Department of Health, 2014, p. 8). On the other hand, Community Advisory Committees have a cost-effectiveness remit. They are to be responsible for ensuring that “decisions, investments, and innovations are patient centred, cost-effective, locally relevant and aligned to local care experiences and expectations”. How the PHN boards integrate these differing perspectives remains to be seen.

Another increasingly important actor in driving behaviour is the business manager of GP practices. Given the incentives inherent in fee-for-service payment arrangements, coupled with the rise of incentive payments to GP practices through PIP, it should not be assumed that practice managers will necessarily act as aligned agents on behalf of the PHNs. This compounds the complexity of incentive structures that already impact on the behaviours of consumers, providers, administrators, funders and others within the health system.

## **PROPOSAL 1: COMMISSIONING THE DELIVERY OF CARE FOR VULNERABLE PEOPLE WITH MULTIPLE CHRONIC CONDITIONS**

The first proposal addresses the provision of care for those with chronic diseases. It is an appropriate candidate for disruptive change on many counts.

Chronic diseases are the leading cause of illness, disability and death in Australia, accounting for 90 percent of all deaths in 2011 (Australian Institute of Health and Welfare, 2014a). Apart from the effect of chronic disease on individual well-being and the well-being of partners and other informal carers, there are wider social and economic costs relating to the public funding of health services and the loss of workforce participation and productivity.

Chronic disease management starts, in most case, with preventative care delivered at the community level. Current estimates suggest that up to 80 percent of heart disease, stroke and type 2 diabetes and more than one-third of cancers worldwide could be prevented by eliminating shared modifiable risk factors—mainly tobacco use, unhealthy diet, physical inactivity and the harmful use of alcohol (WHO 2008) (Australian Institute of Health and Welfare, 2014a).

Appropriate care for people who have established multiple chronic conditions needs to be delivered by multidisciplinary teams of health and social care professionals embedded in the primary health system, with acute care services being called upon when required. The National Health and Hospital Reform Commission (NHHRC) reflected on how the teams should be constituted. It recommended that “... people with chronic and complex conditions (including people with a disability or a long-term mental illness) [should] have the option of enrolling with a single primary health care service to strengthen the continuity, coordination and range of multidisciplinary care available to meet their health needs” (Recommendation 18).

Present arrangements fall short of this vision. GPs are able to complete a GP Management Plan (GPMP) for patients with chronic disease every two years. For those patients with added complexity, GPs can refer them for up to 5 Medicare-subsidised allied health professional attendances annually, in what is known as a Team Care Arrangement (TCA). GPMPs and TCAs provide higher rebates and can be reviewed every 6 months.

Also, the Government's Practice Incentives Program (PIP) provides additional funding to accredited practices to address the treatment of asthma and diabetes. The PIP Asthma Incentive aims to encourage GPs to better manage the clinical care of people with moderate to severe asthma. The PIP Diabetes Incentive aims to encourage GPs to provide earlier diagnosis and effective management of people with established diabetes mellitus (Department of Human Services, 2015). The chronic disease item numbers have been criticised for inflexibility and for not meeting needs of those with chronic diseases (Holden et al., 2012). In addition, the incentives program payments are small, their uptake is decreasing and there is suggestion that the administrative burden in claiming these incentives may not be worth the effort for some practices. (Kecmanovic & Hall, 2015)

Longstanding cross-sectoral and cross-occupational boundaries add to the challenges of improving the coordination of care. A decade ago the Productivity Commission identified a myriad of impediments to the development of sustainable and responsive workforce arrangements. The Commission highlighted entrenched custom and practice amongst and between the health workforce professions as being able to 'stifle necessary and justifiable innovation and change in workforce practices and the evolution of job design and education and training arrangements' (Productivity Commission, 2005, page 29). Other impediments referred to included fragmented roles, responsibilities and regulatory arrangements, and perverse funding and payment incentives. These challenges are particularly problematic in primary health care, where the various medical, allied health, nursing and other providers do not operate in close physical or temporal proximity.

In pursuit of cost effectiveness, this paper argues that PHNs should make it their priority to address the needs of the most vulnerable people in their local communities who are in greatest need of coordinated care from key professionals with whom they can develop trusting relationships. The criteria for vulnerability would in part be based on population profiles within local communities, but would likely include a rapid deterioration in physical and/or mental health, substance abuse, homelessness, social isolation, and deep and persistent disadvantage.

A recently published report by Happell et al (2015) examined the policy support relating to physical health of people with mental illness. Their literature review confirmed that the poor physical health experienced by people with mental illness is a major and yet under-acknowledged public health inequity in Australia. For this group, lower life expectancy is commonly reported (Laursen, 2011) and, just as for the wider population, chronic illnesses such as cardiovascular disease (CVD) are the major cause of death (Clarke & Currie, 2009; De Hert et al., 2011; Moussavi et al., 2007). A report from the US Centre for Healthcare

Strategies similarly found that mental illness is near universal among the highest-cost, most frequently hospitalised beneficiaries of the Medicaid program (Boyd et al, 2010).

In Australia, the Productivity Commission's Report on Deep and Persistent Disadvantage (McLachlan, Gilfillan, & Gordon, 2013) drew on evidence demonstrating the interaction of poor health and disadvantage. A study undertaken by NATSEM (Brown & Nepal, 2010) found that those who are most socioeconomically disadvantaged are twice as likely as those who are least disadvantaged to have a long term health condition. In another study, Azpitarte (2012) found that almost half of all Australians who have a long term health condition or disability experienced some form of social exclusion, and about 13 per cent experienced deep exclusion.

The issue of developing successful models of multidisciplinary care has been addressed in related parts of the primary health care sector. For example, the approach developed in Australia for workplace injury rehabilitation includes a Nationally Consistent Approval Framework for rehabilitation providers (Heads of Workers' Compensation Authorities Australia and New Zealand, 2005). Workers' Compensation Authorities and Compulsory Third Party insurers endorsed the World Health Organisation's generic biopsychosocial model of health, illness and disability as being critical to improving clinical and occupational rehabilitation outcomes when managing injured workers. As such, workplace rehabilitation has deliberately moved away from a disease or injury based medical model and has adopted the following approach (The Australasian Faculty of Occupational and Environmental Medicine, 2010, page 8):

*The biopsychosocial model of illness and disease proposes that biomedical explanations are often insufficient in fully explaining ill health, or good health and wellbeing. Instead, biomedical, psychological and social factors all play a significant role in human responses to illness and disease.*

Emphasis is placed on early intervention and the ongoing engagement of the injured worker as well as the creation of strong links between the insurer, employer and all treatment providers. This is to ensure the integration of all injury management activities and a focus on return to work. Although employers, insurers or doctors may recommend an approved workplace rehabilitation provider to help in complex cases, the insurer retains responsibility for engaging the providers and paying for their services.

Another approach to multidisciplinary care in Australia is that developed by Aboriginal Community Controlled Health Services (ACCHOs). They not only focus on clinical care and preventative health education, but recognise that good health is more than the physical well-being of individuals and involves the social, emotional and cultural well-being of the whole community and the life of the individual within that community. To the extent possible, ACCHOs seek to link the health system to, and be supported by, services that address wider social and economic disadvantage (National Aboriginal Community Controlled Health Organisation, 2013).

## International practice

International evidence suggests that the delivery of effective and efficient care to vulnerable people with multiple chronic conditions can be improved, even in the more advanced countries that have well developed primary health care systems.

In Denmark, primary care is coordinated by a patient-nominated general practitioner who acts as a first point of contact for acute, chronic and preventive health care issues, providing longitudinal care and acting as a gate-keeper to non-acute access to other specialties. GPs are paid through a blended system of capitation payments (about 30% of GP income) and fee-for-service amounts (70% of GP income). These payments are negotiated between the regions and GP representative bodies. The GPs are required to code all activity relating to chronic disease management. Allied to this, a national chronic care model has emerged which features primary care in a central coordination role, disease registers which risk-stratify patients, and the assignment of case managers (Frohlich, Strandberg-Larsen, & Schiøtz, 2008).

However, while clinical guidelines and care pathways have been developed (with diagnostic and treatment standards aligned to pre-defined courses of appointments), these have been narrowly defined for single diseases, and do not address the complexity of care needed for patients with multiple conditions and increased vulnerability.

In the United States, the concept of the patient care medical home (PCMH) has received attention as a strategy to improve access to quality health care for more Americans at lower cost. It is implied, but generally not explicitly stated, that the concept is most relevant to the care of people with chronic and/or complex medical conditions. The general understanding is that in the medical home, responsibility for care and care coordination resides with the patient's personal medical provider working within a health care team. There are a number of characteristics that have been defined as components of this primary care model: provision of comprehensive care; a patient-centred approach; coordinated care across the broader health system; a focus on access; and a commitment to safety, data collection and quality improvement (Eperly, 2011). The PCMH model also provides blended payments: payers reward providers with a monthly bonus payment for quality primary care of the population.

Since 2012, Accountable Care Organisations (ACOs) have become a feature of the US health system. ACOs are based around groups of providers (GPs, specialists, other health providers, hospitals) who agree to accept responsibility for costs and quality of all care for their population. They have been likened to a 'medical neighbourhood' for the medical home. ACOs are encouraged to improve care coordination and population health management along the lines of the PCMH model, and may also share savings made in reduced fee-for-service payments to the population through the Shared Medicare Savings Programs. The introduction of shared savings has accelerated the adoption of the PCMH model and has been seen as important in its success (Friedberg, Rosenthal, Werner, Volpp, & Schneider, 2015).

A key strength of the Israeli system is its investment in multi-disciplinary community-based clinics; emergency care centres; and clustered or co-located service providers. These collaborative models are characterised by greater breadth of primary care services and coordination between primary care providers. While the largest of the four health insurance funds owns and operates its clinics and hospitals (and directly employs staff), the remaining three funds contract with both practitioners and hospitals for the provision of services (OECD, 2012). Despite the level of structural integration, there is little evidence of strong coordination between the primary and secondary care sectors, an issue that will be addressed in greater detail in the second proposal.

### Role for the PHNs

Drawing on the evidence set out above, including the workplace injury rehabilitation and ACCHO models, it is proposed that PHNs be given the role of budget holders to fund the management of care for vulnerable people with multiple chronic conditions.

Given the size of the populations and, in many cases the geographic spread of the regions, PHNs may need to commission local agencies to be responsible for the delivery of long term care (and, as appropriate, rehabilitation) services to these patients. The governance structures of local level agencies should be developed to have the same incentive structure as the PHNs.

The PHNs/local agencies would contract with preferred consortiums of providers (in effect, multi-disciplinary team coordinators) which included relevant health and social care professionals. The individual medical practitioners (not practices) and other health and social support providers who participated would be paid an incentive, and patients who met the criteria (being vulnerable, having the highest level of need and being able to be accommodated within the PHN budget) would have a coordinated care experience that attended to their multiple needs and enabled the development of trusted relationships with their key providers.

To enable continuity of care from existing relationships between some patients and their health care providers, GPs who were not part of the preferred provider consortiums would be able to charge fees in the normal manner, but not receive the incentive bonus. Patients would be able to keep attending those GPs, but without access to the locally coordinated range of other services. This would provide an incentive for patients and providers to participate in the scheme, while retaining high levels of autonomy and choice.

Well planned and inclusive implementation of change is essential to its cost-effectiveness and to its ultimate success. It also helps minimise any unnecessary loss of human and social capital. The experiences of changing from DGPs to MLs and now to PHNs, and the delivery of after-hours care in particular, reinforce this point. Accordingly, the reform should be gradually rolled out across a range of patients. While not every vulnerable person with a chronic condition could be included from the start, every GP could apply to be a preferred provider. For example, because GPs are used to the Service Incentive Payments (SIPs) and PIPs, asthma and diabetes might be the first chronic conditions to be funded in this way. The

preferred consortiums of providers would take over from GPs as the team co-ordinators and be held accountable for ensuring that each member of the team met their obligations and that treatment (and rehabilitation) goals were met.

As a final point, the change must be accompanied by a sound evaluation plan. There should be a variety of forms of innovation, good baseline and operational data which is open and accessible, and analysis that is independent, repeatable and publicly reported.

## **PROPOSAL 2: MANAGING THE COORDINATION OF HOSPITAL DISCHARGE AND COMMUNITY-BASED CARE**

The interface between acute care and primary care is often considered to be one of the more important but least managed transitions in the health system.

The interactions and information flows between primary care and acute hospital care are crucial for safe and efficient patient care, particularly for those with complex conditions and complex care needs. Improved management of this transition has been identified as particularly important in improving patient care experiences and in reducing hospital expenditures arising from preventable readmissions. Resolution of the issue is complicated by the different jurisdictional ownership, funding and other underlying incentives, and even incompatible information systems.

Patients face two directions of flow across this interface, each with their own issues.

The first is inappropriate admissions to hospital. This is best exemplified in the aged care sector where there is evidence of hospitalisation of residents ahead of the time that clinical evidence would otherwise suggest. Indeed much hospitalisation in the later stages of life is also often contrary to the wishes of patients themselves. Research by Gomes et al (2013) found that hospitals are the least preferred places where people want to die, followed by residential aged care facilities, and yet 54 percent of people died in hospitals and 32 percent died in residential aged care facilities.

The second patient flow, and the subject of this paper, is the transition from the hospital to post-discharge care within the community. The size of the hospital/community care transition is both large and growing. The AIHW reports that there were almost 9.4 million separations from Australian hospitals in 2012-13, of which 3.9 million followed at least one overnight stay (Australian Institute of Health and Welfare, 2014b).

There are real concerns about the effectiveness and efficiency of this transition. However, whereas much of the literature is focused on the adequacy of hospital discharge planning, of equal concern is the planning, funding and delivery of coordinated and comprehensive post-discharge care at the community level. A related concern is the presence of gaps in a

region's resources to be able to effectively deliver the full range of care required. PHNs can take on a much more active role in managing the quality of this transition.

One of the significant pressures on community-based care is that patients are being discharged earlier. In Australia the data confirms the trend for shorter average lengths of stay. For overnight separations, the average length of stay in all hospitals combined fell from 6.0 days to 5.6 days between 2008-09 and 2012-13. And this is not just an Australian phenomenon – the average length of stay excluding same-day separations is comparable with the length of stays reported for other member countries by the Organisation for Economic Co-operation and Development (OECD, 2013a).

A second concern is the health status of patients at the time of discharge. The profile of people being discharged from hospital is changing, and is adding pressure on community-based care. Many more patients are being discharged while suffering multiple chronic conditions.

A third challenge is the increasing number, and proportion, of patients being discharged into the community who are over 65, many of whom live alone with little support from family or friends. A review of evidence by Bauer et al (2009) identified the range of care needs, and therefore of health professions, that need to be actively involved in the planning, funding and delivery of post-discharge community care for older patients:

*Because older patients often have complex care needs related not only to their medical condition, but also cognitive, functional and/or social deficits, discharge plans frequently fail to meet the patient's requirements. (Bauer, 2009, p.2540)*

The evidentiary review highlighted that when there is effective discharge planning, the resultant benefits include a reduction in unplanned readmissions, a reduction in post-discharge complications and mortality, an increase in patient and caregiver satisfaction and a reduction in post-discharge anxiety. Where the discharge planning process fails to identify and/or address a patient's care needs, not only is the risk of readmission higher, but the hospital length of stay is often longer (Hegney et al., 2002; Shyu, 2000).

A 2013 report by Mabire et al. (2013) on the effectiveness of nursing discharge planning interventions for elderly in-patients drew attention to the convergence of the issues of an ageing population and the higher utilisation of health care by the elderly, and therefore the increased number of elderly patients being discharged from hospitals into community care.

The authors noted that patients tend to be discharged "quicker and sicker" and this can result in adverse events during the immediate post-discharge period. The problems included medication prescribing errors, poor communication between hospital and primary care physicians and/or lack of coordination with community health care services.

For those being discharged to their community providers in poor health, one reason is the quality of care received in the hospital. In 2012–13, 5.5% of separations reported one or more adverse events. The proportion of same-day separations with an adverse event was low

at only 1.7% overall, compared to 10.7% for overnight separations (Australian Institute of Health and Welfare, 2014c). A study by the Department of Health (2012) drew attention to the need for well-planned pathways for those patients who have a high risk of medicine misadventure within ten days of discharge. The authors called for an evidence based approach to identify ‘urgent’ patients, and for the community pharmacist to be involved. They argued that the new pathway must remain consistent with requirements of the existing Home Medicine Review (HMR) referrals and service provision.

One of the issues regularly identified as a cause of the poor coordination of care across the hospital/community transition is the inadequacy of the medical records that are passed from the hospital to the community GP. A study by Belleli et al (2013) found numerous significant delays and content omissions in discharge summaries. The researchers suggested that junior hospital medical staff ‘could be better informed about critical handover information and better equipped to deliver it promptly to support safe patient transitions between hospital and community.’ (page 890).

However, even when records are created and transmitted electronically, problems continue. A study by Chemali et al. (2015) found a high level of abbreviations used in electronic discharge letters were not well understood by the receiving GPs. No abbreviation was correctly interpreted by all GPs and six abbreviations were misinterpreted by more than a quarter of GPs. As the authors concluded, such an error rate clearly “has potential to affect patient care in the transition from hospital to community care” (Chemali et al., 2015, p. 147).

### International practice

International experience demonstrates that Australia’s concerns about the adequacy of both hospital discharge planning and the capacity of the community-based care system to plan, fund and deliver appropriate post-discharge care are similar to those in other countries.

In Denmark, which has a well-developed network of regional health care organisations, the regions have carriage of both the operation of hospitals and the contracting of GPs. And yet, notwithstanding this design advantage, a report from the European Observatory on Health Systems and Policies concluded that patient pathways in Denmark are poorly coherent, particularly between primary and secondary care, due to poor understanding and communications between providers (Olejz et al., 2012).

There is a range of reasons why integrated care remains a challenge in Denmark. For instance, the Danish National Indicator Programme, which provides specific standards and timeframes for quality of care measures for specific conditions, is focused on hospitals and does not align with the Danish General Practice Database (DAMD) framework (which does not specify standards or timeframes). Similarly, an accreditation program which is focused on minimum standards of provider quality and is designed to support a culture of continuous quality development, has been deployed in all hospitals, but not in the primary care sector.

As noted earlier, an acknowledged strength of the health care system in Israel is its reliance on community-based health care facilities. The four competing insurance funds manage



hospital expenditures intensively, and offer a range of alternative services deemed to be the most effective and efficient for the situation, including community-based alternatives to hospital care. Despite the advantageous design, data collection in hospitals has been found to be relatively weak, and communication between the community care and hospital sectors is poor. The transfer of patient records, post-discharge planning and other information is limited. In one survey, around 42 percent of patients reported the absence of a coordinating physician (Bramli-Greenberg, Gross, Yair, & Akiva, 2011).

New Zealand has also sought to better integrate hospitals and community care. The Primary Health Care Strategy of 2001 saw the introduction of 80 locally-defined Primary Health Organisations (PHOs), comprising multi-disciplinary teams focused on essential primary care services for their enrolled population (King, 2001) . These were funded by 21 District Health Boards (DHBs), which also oversee public hospitals in their region. Nonetheless, a Ministerial Review Group report in 2008 found that the system suffered from considerable duplication and bureaucracy, concerns about variation in service access and efficiency, and a lack of national coordination (Ministerial Review Group, 2009) .

The United States faces similar challenges. As a result, they are developing incentives to coordinate care across all relevant services, reduce errors and complications in hospitals, improve the effectiveness of purchasing practices and manage post-discharge care more efficiently. In July 2015, the Centres for Medicare and Medicaid Services (CMS) issued a proposed rule for a new mandatory program covering Comprehensive Care for Joint Replacement. The program would establish bundled payments for hospitalisation, professional fees, and all clinically related services for 90 days after discharge such as skilled nursing care, home care and hospital readmissions. This follows findings that substantial savings may be achievable through coordinating care, use of home care where appropriate and higher quality, more efficient facilities when institutional care is required (Mechanic, 2015).

CMS are also proposing that hospitals would be exclusively responsible for the bundled payment program and would control any surpluses. However, recognising the benefits of coordination and the likely rise of new care alliances, the CMS program design will also permit gainsharing. Program pricing would be, initially, a blend of clinical and regional costs, moving to full regional pricing by year 5. Service quality measures would affect the prices paid to the hospitals.

### Role for the PHNs

As the above evidence demonstrates, managing the transition from hospital to community-based care has proved to be an intractable problem across the globe. The divergent payment incentives, fragmented organisational structures and processes, and unequal power and funding, are just some of the many reasons for this lack of coordination. Even in countries where hospitals and general practitioners are under the control of regional networks, poor communication and coordination remain major concerns.

Nonetheless, for PHNs to be successful in improving this transition, the cooperation, indeed active involvement, of hospitals is essential. Such an approach is consistent with the PHN Grant Program Guidelines, which set out an expectation that PHNs are to develop collaborative working relationships with LHNs as well as the public and private hospitals, in part to “increase the PHN’s ability to purchase or commission medical and health care services” (Department of Health, 2014, p. 8).

An incremental improvement in coordination would be for PHNs and their counterpart LHNs to set up local area committees to monitor and publicly report on the quality of the hospital/community care interface. The reports could include data on the adequacy and timeliness of discharge reports and distribution of those reports to all key providers of health and social services to the patient. The reports would identify inadequacies and propose solutions for the commissioning of services by PHNs under their budget for innovation funding.

This paper argues, however, that a more significant change is warranted. It is proposed that PHNs be given the role of budget holder for those community-based health care services which deliver post-discharge care, for a period of 90 days from the date of discharge. Further, to ensure alignment of incentives, and reflecting the bundled payment initiatives in the US, PHNs would, where appropriate, contract with hospitals for the delivery of that care. In turn, the hospitals would contract preferred providers across the full range of community-based medical and health care services, and be responsible for the care outcomes of patients from the time of admission to the end of the post-discharge 90 day period.

It is recognised that LHNs already deliver some community-based services including community nursing and allied health services. However, funding varies between LHNs, including for post-natal care, drug and alcohol services, sexual health services etc. These existing budgets would be integrated into the payments hospitals receive for their admitted patients and the PHN community-based health care payment.

There may be local areas within regions where PHN-commissioning of hospitals directly would not produce the optimal outcome, at least in relation to discharge procedures and subsequent community-based care. Other possible commissioning models include contracting with large integrated health care providers and/or health insurers. PHNs should explore the range of possibilities appropriate to their local circumstances, to organisational structures and to the governance arrangements that have incentives aligned with those of the PHNs. Such options would not reflect a full bundled payment option, but, to be effective, the commissioned agents would need to have some say in the discharge procedures of hospitals.

Again, well-planned and inclusive implementation is essential for the success of the initiatives. As in the US, a very limited number of hospital interventions and the associated post-discharge delivery of selected patient care needs should be identified and carefully monitored, evaluated and reported on. Priority would be directed to specific patient groups who are known to be poorly serviced and have poor long-term outcomes.

## **PROPOSAL 3: DRIVING THE UTILISATION OF E-HEALTH TO ACHIEVE GREATER EFFECTIVENESS AND EFFICIENCY IN HEALTH CARE DELIVERY.**

E-health is a very broad term encompassing any electronic-, digital- or internet-facilitated means of exchanging information and/or enhancing communication about health and health care between and within consumers, providers and related organisations. Examples of e-health tools include electronic health records, health information websites, decision support programs and electronic prescribing software (Anikeeva & Bywood, 2011).

E-health also encompasses consumer-directed applications ranging from the more general, such as internet and on-line support groups, to more specific applications such as electronic-based information and support designed to enhance patient self-management, decision aids as well as personally controlled electronic health records (PCEHRs).

Such systems are considered central to current efforts to optimise primary care, generally by targeting three closely linked areas of need: improving the management of chronic care; encouraging broad-based general practice or multipurpose service delivery (i.e. team-based care); and better care co-ordination, including across the hospital/community care transition.

For providers, improved access to health information may result in better care outcomes and reduced duplication of services. Access to shared clinical information by a multi-disciplinary team of providers is likely to support more comprehensive and coordinated team-based care across occupational and geographical boundaries and may lead to improved continuity of care relationships between patients and their key health professionals. Finally, electronic records increase the ability to use clinical data for quality improvement within and between practices (Anikeeva & Bywood, 2011).

In Australia, the formation of DGPs in 1992 paved the way for funding to be provided to general practices for, amongst other improvements, IT systems which have the capacity to enhance integration of information and the monitoring of quality. The result is that the majority of GPs use electronic health records for patient management, including reminders, e-prescribing (in a limited way) and websites. Telehealth initiatives have been designed to support clinicians and patients in remote areas as well as clinical decision support systems including education via simulations and vignettes of easily accessible recommended treatments (Cornwall, 2014).

The Government has invested significantly in the development of e-health capability through a number of incremental PIP e-health incentives targeted at increasing the capacity for general practices to function (and interact) electronically. To be eligible to receive the incentive, practices must meet a number of technical requirements (including accreditation), as well as work towards recording the majority of diagnoses for active patients electronically;

ensure the majority of their prescriptions are sent electronically to a Prescription Exchange Service (PES); and provide all GPs at the practice with access to the current editions of key electronic clinical resources.

The PIP eHealth Incentive aims to encourage the adoption of new technology as it becomes available and to assist practices to improve administration processes and the quality of care provided to patients.

Since 2012, the Government has also invested in the development of a system for a Patient Controlled Electronic Health Record (PCEHR)s – (Department of Health, 2015b) – a secure online summary of an individual’s health information. A Government commissioned review of the PCEHR in 2013 (Department of Health 2013) made a number of recommendations including: increasing usability through a secure messaging platform; integrating with pathology and diagnostic imaging; and identified a minimum composite of records required for clinician engagement including demographic information, medications and adverse events, discharge summaries and clinical measurements. The review also recommended the PCEHR transition to a revised My Health Record. This was announced in the 2015-16 Budget.

The roll-out of the PCEHR/My Health Record is proceeding relatively slowly (see Figure 1), as only about 10 percent of the population (2.3 million individuals) and around 8000 healthcare provider organisations have registered, including a little over 5000 general practices. The uploading of prescribing and dispensing documents (2 million) significantly exceeds the uploading of clinical documents such as health summaries, specialist letters or e-referrals. However, uptake by the population is predicted to rise more rapidly with the move to an opt-out model to be trialled in 2015-16 - another recommendation of the 2013 review.

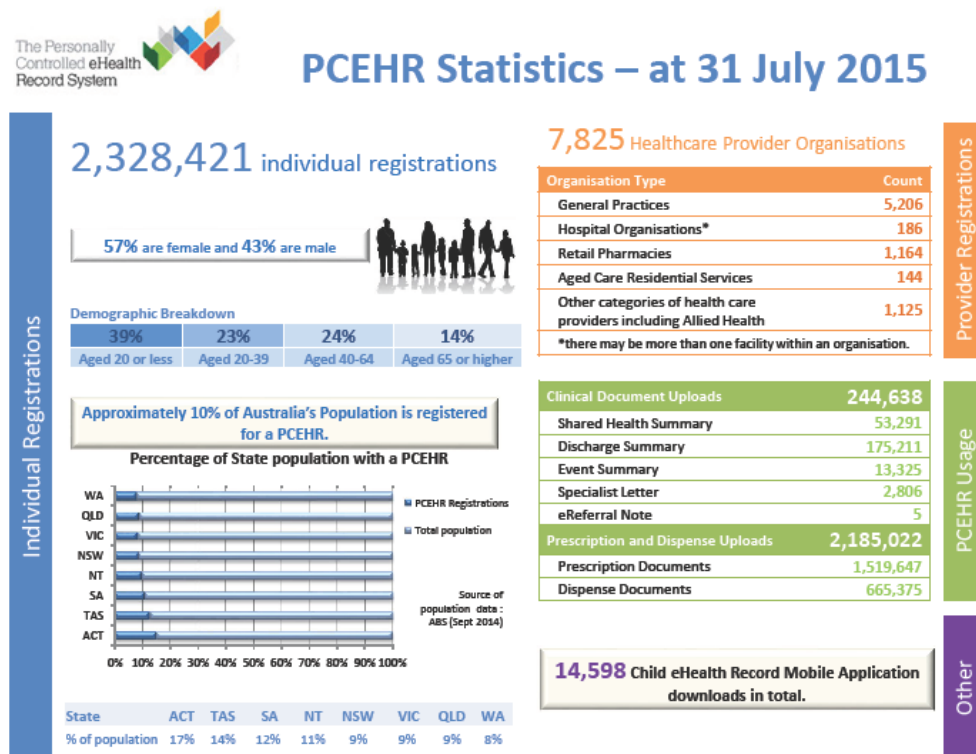
There are two main outcomes proposed to flow from the introduction of the fully developed PCEHR. First, it will allow the collection and amendment (by authorised users) of the information required in an individual’s medical record once only and in (close to) real time. Thus, personal and medical histories as well as test results, diagnoses and interventions are included and available for the patients and all authorised clinical personnel to view and amend. It also allows communications, such as discharge letters, treatment summaries and referrals to be delivered electronically. Thus, if the uptake is high (by both patients and healthcare professionals/organisations) and it is perceived to be functional, secure and user-friendly, it should contribute to an increased level of service integration.

Second, the patient-controlled features should increase patients’ knowledge and understanding of their conditions and treatments, enhance their empowerment and self-management of conditions and improve communication and the quality of the relationship between consumers and their health care providers.

From the GP perspective, the static nature of the available information in the PCEHR, together with concerns about its ability to integrate with existing practice software, have been offered as reasons for its limited current utilisation.

Apart from the PCEHR, there are other functions of a broader e-health system which also have important potential for enhancing quality of care (particularly for chronic conditions), for encouraging team-based care and for facilitating the coordination of care, as demonstrated by the experience of other countries.

Figure 10. Uptake of Patient Controlled Electronic Health Record



### International practice

In Denmark, similar to Australia, almost 100 percent of Danish GPs use electronic health records for some patient management purposes. In contrast to Australia, however, over 80% of communications with other service providers are electronic. Moreover, Danish GPs are required to code all activity relating to chronic disease management, and allied to this, a national chronic care model has emerged which features primary care in a central coordination role, as well as disease registers which risk-stratify patients and the assignment of case managers.

Data capture is used to monitor the quality of care; including data on diagnoses, procedures, prescriptions and laboratory results used to monitor the quality of care. This data is captured automatically (reducing the burden on GPs) and held in the Danish General Practice Database (DAMD). Patients are also able to monitor their own data, thus supporting more active participation in their treatment and care (OECD, 2013b).

The DAMD represents a platform whereby GPs can access quality reports from their own practice over time, allowing them not only to identify patients who have been sub-optimally treated, but also to benchmark their practice against their peers at the municipal, regional and national levels. This represents a key incentive structure for service providers to improve their quality of care. There is some evidence showing that improved quality of primary care for diabetes has been associated with the use of the DAMD reporting tool (Schroll et al., 2012). It is however still unclear whether the tool is being accessed and used effectively. There is some resistance to linking clinical performance, with the view that there may be unintended distortions in the priorities of practitioners (e.g. lower priority treatment of complex patients, or of non-incentivised conditions).

Israel uses e-health to encourage team-based care as well as enhance the quality of care, although in contrast to Denmark, participation in the national program is voluntary. Each of the four health insurance funds operates a system of detailed electronic medical records which support the sharing of information throughout the community care setting. The data are collected in standardised form and audited regularly. Reports based on the data allow individual health funds to benchmark their performance against the national average, as well as against that of other health funds (OECD, 2012).

Israel's e-health system has facilitated sophisticated data collection and monitoring infrastructure, in the form of the voluntary National Programme for Quality Indicators in Community Healthcare (QICH). The programme captures 35 measures of quality care in the areas of primary prevention, disease management, and effectiveness of care in community-based clinics. In addition to the QICH, there are surveys of patient experience at both system and health fund levels. The results of the system-level survey are provided to key decision makers and the public. The Israeli system is an example of how the provision of regular, rich information can be used to drive positive change in a collaborative fashion.

New Zealand established the National IT Health Board in 2009 in order to centralise IT purchasing and planning and support the development of data infrastructure. As at July 2014, the rollout of key priority projects was in progress (New Zealand Ministry of Health, 2014), including electronic consolidation of patient medication and prescription records, nationally standardised electronic registries of clinical information (including discharges and referrals), and integrated care plans which are accessible by the patient and primary, community and hospital health professionals.

### Role for the PHNs

To underpin the success of new governance structures and improve service delivery models, it will be necessary to improve the underlying information systems. And while, on its own, the adoption of a robust e-health system will not improve the health of either individuals or the population, it is clear that the successful implementation of Proposals 1 and 2 will require "joined-up data".

The experience of Israel (and to a lesser extent Denmark) suggest that effective data

collection both at the patient and service provider level, including measuring activities in prevention and disease management, effectiveness of care, patient experience, and uptake of good practices, and the reporting of this data to PHNs – in a way which allows quality of care to be benchmarked against other PHNs, states and in aggregate nationally – could drive system-wide improvements.

It is argued that the availability of this rich and timely data appeals to the inherent desire of service providers to improve care, by making known to all stakeholders how each PHN has performed. An alternative framework, such as the United Kingdom's Quality Outcomes Framework, would involve the implementation of an incentive payment framework. While this may seem economically sound, the investment is considerable, and the thresholds and payment formulas would require substantial deliberation. The evidence from the UK and around the world on how these incentive payments have produced better outcomes (in health, cost-effectiveness or patient experience) is unclear and potentially weak (Health and Social Care Information Centre UK, 2014).

A different model is proposed in this paper, based on the concept of patients having a regular GP. Although Australia's primary health care system is structured such that patients may consult as many GPs as they wish, evidence shows that most people, particularly older people and those with chronic conditions, are able to identify a regular GP, that is, the GP they consult most frequently. The gate-keeping role of GPs in Australia reinforces this concept.

Accordingly, this paper proposes that in order to provide more integrated care for these groups of patients, GPs need to perceive that they are responsible for the provision of care for a designated population. As such, they would be required to take responsibility for a range of health monitoring, screening and coordination services.

One way of encouraging GPs to adopt this responsibility is for PHNs to implement a program of registration of individuals with the GP they identify as their regular GP. A one-off incentive could be provided to practices to set up a registration system and GPs could receive a one-off payment for being the patient's regular GP. Limits on the minimum duration of registration may be needed to prevent patient churning and frequent payment of incentives, however, it would need to be balanced against the desirability of patients being free to change providers as desired.

Another proposal, which could be implemented in conjunction with patient registration, would be for the practice accreditation standards to be progressively strengthened to include active use of e-health by the GPs. This could be defined in a variety of ways, and innovation should be encouraged, monitored and evaluated, and best-practice openly and actively disseminated. In addition, PHNs could mandate that if GPs and other health providers wish to be considered as part of a preferred consortium of providers to deliver either integrated care (Proposal 1) or post-discharge community-based care (Proposal 2), they would need to have in place an e-health system which achieves high standards for sharing information between all relevant providers in the consortium and with patients.

## CONCLUSION

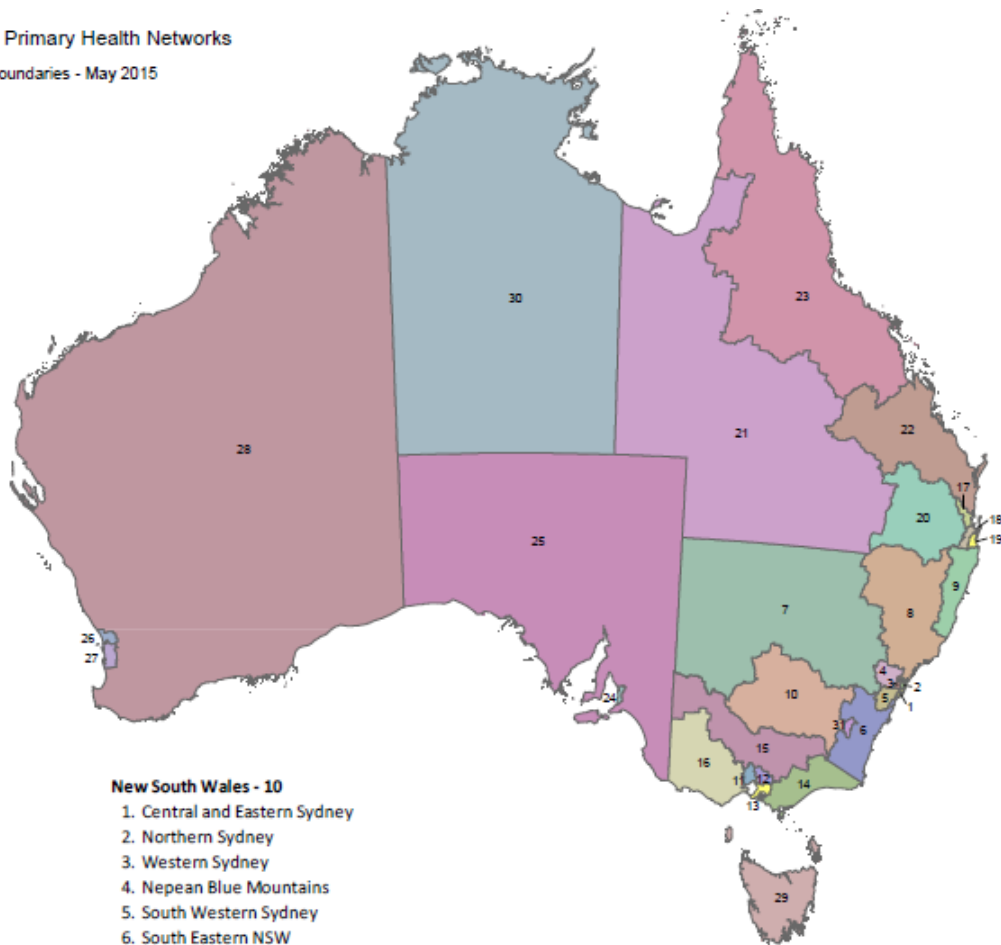
- The introduction of Primary Health Networks offers a new opportunity to improve the effectiveness, efficiency, equity and sustainability of the primary health care system in Australia for the benefit of the patients, community and funders, as well as improve its interface with the acute care sector and broader social and community services.
- Characteristics of a strong primary health care system include: accessibility; affordability; comprehensiveness; continuity; coordination and an effective and efficient system structure.
- The PHN initiative is the third major reform aimed at improving regional-level primary health networks in Australia. This disruption has come at a cost, not only financial but also in terms of lost human and social capital.
- A number of system-level challenges form an important context for identifying opportunities for the new PHNs to be a disruptive force for positive change. Those challenges include: the funding and functioning complexities of Commonwealth/State/Territory relations; fiscal pressures facing governments (the predominant funders of health care); incentives embedded in the payment arrangements for GPs and other health providers; entrenched occupational boundaries; inadequate e-health; a lack of a bipartisan reform agenda; the poorly defined role of private insurance; and the lack of policy and program coherence between physical health, mental health, disability and aged care.
- The paper assumes that PHNs are motivated to fund a level of care to the greatest number of people in the greatest need with the least possible resources consistent with ensuring the safety and quality of that care. However, PHNs will be functioning in a system where the incentive structures faced by consumers, GPs, other health providers, administrators and funders are not aligned, either between themselves, or with the new PHNs. This will prove to be a major challenge for them.
- This third attempt at establishing regional-level networks must enable the use of different levers if the new PHNs are not to be constrained by existing incentive structures. The new PHNs must be able to develop new ways of doing business with providers.
- *Proposal 1.* PHNs should become budget holders to fund the management of care for vulnerable people with multiple chronic conditions. They would commission local level agencies to contract the delivery of long term coordinated care from consortiums of providers, provide aligned incentives and carefully plan the implementation to maximise the net benefits.



- *Proposal 2.* PHNs should become budget holders for those community-based health care services directly related to post-discharge care for 90 days following discharge. Where appropriate, and to leverage the alignment of incentives, PHNs should commission local hospitals to perform this role and be given bundled payments covering the total episode from admission to the end of the post-discharge 90 day period. Where commissioning local hospitals would not produce the optimal outcome, other agents could include large integrated health care providers and/or health insurers. Again, implementation planning is a key to success.
- *Proposal 3.* PHNs could encourage a greater take up of e-health through initiatives such as patients registering with their regular GP for services including health monitoring, screening and care coordination, and general practice accreditation standards could be progressively strengthened.

# APPENDIX: MAP OF PRIMARY HEALTH NETWORKS

31 Primary Health Networks  
Boundaries - May 2015



**New South Wales - 10**

1. Central and Eastern Sydney
2. Northern Sydney
3. Western Sydney
4. Nepean Blue Mountains
5. South Western Sydney
6. South Eastern NSW
7. Western NSW
8. Hunter New England and Central Coast
9. North Coast
10. Murrumbidgee

**Victoria - 6**

11. North Western Melbourne
12. Eastern Melbourne
13. South Eastern Melbourne
14. Gippsland
15. Murray
16. Western Victoria

**Queensland - 7**

17. Brisbane North
18. Brisbane South
19. Gold Coast
20. Darling Downs and West Moreton
21. Western Queensland
22. Central Queensland and Sunshine Coast
23. Northern Queensland

**South Australia - 2**

24. Adelaide
25. Country SA

**Western Australia - 3**

26. Perth North
27. Perth South
28. Country WA

**Tasmania - 1**

29. Tasmania

**Northern Territory - 1**

30. Northern Territory

**Australian Capital Territory - 1**

31. Australian Capital Territory

Source: Australian Government (2015a)

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# Bundled payments: Their role in Australian primary health care

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## Executive Summary

- This paper examines the issues associated with introducing bundled health care payments for primary care in Australia, including the predisposing conditions required for their successful implementation. These are discussed in the context of the Commonwealth Government-initiated Reform of the Federation and Reform of Australia's Tax System.
- Like all health care systems, the Australian health care system is facing challenges. There have been calls for an urgent reform of the funding system to better support a well-functioning primary health care system that delivers better clinical outcomes, particularly for those with chronic conditions and for vulnerable populations, and is sustainable. This requires incentivising care coordination and integration of care.
- There are fundamentally three payment mechanisms, which are along a spectrum; fee-for-service, bundled payments and capitation. Each has advantages and disadvantages and each has its place depending on the goals of the health system. The payment methods can be blended with one another and with other strategies to either encourage desirable benefits or discourage undesirable consequences. These strategies include pay for performance, benefit and risk sharing, and management strategies.
- Bundled payments describe a method of payment where services, or different elements of care, are grouped together into one payment. Evidence of benefit includes the ability to curb health care costs without decreasing quality and potentially even improving it. The mechanisms of impact are variable and include reducing waste, redesigning more effective services, provision of appropriate care, greater team based working, improved data utilisation, better coordination and care integration. However, there are significant implementation barriers, which include complexity in defining bundles of care, the payment method, implementing measurement, determining accountability and engaging providers. These difficulties and some of the mechanisms were observed during a pseudo-simulation exercise at a workshop exploring the potential of bundled payments in the Australian context.
- In considering the role of bundled payments for primary care in Australia, it needs to be recognised that payment systems cannot be the only policy lever to achieve the goals of the health system. There will inevitably be trade-offs that need to be made between the objectives and the choice or blend of payment systems. Moreover, the payment system will need to be flexible and adaptable.
- The evidence for bundled payments (or any other payment system) is not complete with significant gaps in the data and research. However, there is sufficient knowledge of risks and of strategies to circumvent those risks.

- There are a number of predisposing conditions in the Australian primary care context at present to support a transformational payment reform such as bundled payments. These include:
  - A growing call for payment reform from policy makers, independent bodies and professional colleges
  - Prior experience demonstrating the ability to pool funds between different levels of government, with the review of federalism being undertaken by the current government offering a time-limited opportunity to identify who the custodians of any future pooled funds could be
  - Recent structural reforms aligning Primary Health Networks and Local Hospital Networks creates the platform for engaging with consumers and providers, as well as the change agents to support a transformation at a microsystem level.
- There is an urgent need for quality data on outcomes and costs to support the transition towards a more fit for purpose payment system. Once this final foundation is in place, the ground will be fertile for a payment reform. The implementation of bundled payments for key primary care populations has the potential to be a bridge towards a future capitation model in a transition towards a value based primary health care system.

## Introduction

Australian health care performance measures favourably when compared to other countries. The Commonwealth Fund ranked Australia fourth amongst the eleven nations studied in a report incorporating patients' and physicians' survey results on care experiences and various dimensions of care(1). It noted that every country had room for improvement and indeed Australia's health care system faces its share of challenges and pressures, some of which are also experienced by other similar countries. However, some are unique to Australia, particularly in the context of the roles and responsibilities of different levels of government. These are the focus of health reform debate and current review processes.

The Australian Government has embarked upon a review of Federalism and has produced an issues paper on health that describes the challenges and poses a series of questions on accountability, subsidiarity, national interest, equity, efficiency, effectiveness, durability and fiscal sustainability(2). The paper points out that in Australia, there is no overarching health system but a complex web of services, structures and providers with no single level of government having all the policy levers to ensure a cohesive health system. This has particular implications for those with chronic and complex conditions who require integrated and coordinated care.

The predominant mechanism for funding health care at present, including for those with chronic conditions in primary care, is a fee for service model (FFS). This model is thought to work less well for those with complex and chronic needs, and has been suggested as a factor contributing to fragmentation of care, leading to calls for an "urgent need to reform health funding"(3). The Australian Government has embarked on a 'Healthier Medicare' initiative including:

- a taskforce charged with the responsibility of reviewing the Medicare Benefits Schedule (MBS)
- the creation of a Primary Health Care Advisory Group (PHCAG) and
- a review of Medicare compliance rules(4)

A well-functioning primary health care system includes considerations of affordability, equity, effectiveness, safety and accessibility. The PHCAG has presented a consultation document on options to improve primary health care for people with chronic and complex conditions. Presented within it is a theme on establishment of suitable payment systems with the aim of achieving "a primary health care system that is supported by suitable payment mechanisms to: drive safe, high quality care; support regional flexibility; and improved patient outcomes and value, not just volume of services"(5).

A common thread across all of these discussions is a need for a more sustainable financing mechanism for health in Australia, which maintains or improves on all the dimensions of quality care and delivers improved value. 'Bundled payments' in health care are a structured way of improving the processes of care and patient outcomes, handling a patient's entire care episode and elements of care, rather than individually for every test and treatment they receive. It seeks to reach

across silos of health care services and to better coordinate care to improve patient outcomes and efficiency within the health care system.

This paper examines the issues associated with introducing bundled health care payments for primary care in Australia, including the predisposing conditions required for their successful implementation. These are discussed in the context of the Commonwealth Government initiated Reform of the Federation and Reform of Australia's Tax System.



## Current Health Issues in Australia

The Australian health care system performs well compared to those of other countries and was ranked fourth in a report comparing eleven nations. It ranked higher in dimensions of quality care and chronic disease but particularly low in areas such as cost-related access problems and timeliness of care(1). However, masked within the data of overall performance, are significant shortcomings of the health system. This is particularly so for specific populations including(3):

- Aboriginal and Torres Strait Islander people
- culturally and linguistically diverse populations
- the elderly
- those with chronic illness
- those with disabilities
- those with mental illness
- people living in rural and remote locations

A pressing driver creating a sense of urgency for reform is the sustainability of health care spending. The Intergenerational Report projects real health expenditure per person will more than double over the next forty years(6). Of the total recent health care spends, the Australian Government provided around 41 percent, state and local governments contributed 27 percent, and private contributions made up the remaining 32 percent (including out of pocket costs). The major health programs funded by the Australian Government are the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Schedule (PBS). The MBS includes most of the funding for general practice. It was initially introduced as a scheme to provide the *'most equitable and efficient means of providing health insurance coverage for all Australians'*(7). However, for the majority of general practice consultations, General Practitioners (GP) forego any fee on top of the government-determined reimbursement for the service and bill the government directly. For this reason, and because there is a mandatory contribution of 1.5 percent of taxable income, many patients would not describe Medicare as a system of patient insurance, but rather as a means of funding health care directly(8).

The growth in future spending in health is attributed to demographic and non-demographic factors(2). Amongst the demographic factors are population ageing with the median age of the population projected to continue to rise. This is associated with an increase in the prevalence of chronic diseases resulting in a rise in demand for health care. However, non-demographic factors such as new technologies and treatments also play a role as health care utilisation is increasing across all age groups. Accompanying this is increasing consumer expectation together with other non-demographic factors such as higher income, wage growth and technological change.

A health system designed in an era where communicable diseases were more prevalent than chronic diseases is struggling to meet the changing health needs of the population. The management of chronic conditions may involve multiple

providers across multiple settings. To be effective it requires care co-ordination and integration of care, particularly for those patients with multiple morbidities or greater complexity. However, for a number of reasons, the experience of patients and providers alike is a fragmented system. At a macro level, no single level of government has all the policy levers to create an integrated health system. The information systems are not shared across multiple providers and transitions of care within and between organisations is suboptimal. Moreover, the funding mechanisms, which are predominantly fee for service, are not aligned to the requirements for effective delivery of chronic care. This has been increasingly implicated as an important contributor to the system-wide problems of fragmented and inappropriate care resulting in unnecessary costs(3). This is consistent with international experience where a *“fee for service system of provider payment is increasingly viewed as an obstacle to achieving effective, coordinated, and efficient care”* because it *“rewards the overuse of services, duplication of services, use of costly specialised services, and involvement of multiple physicians in the treatment of individual patients. It does not reward the prevention of hospitalisation or rehospitalisation, effective control of chronic conditions, or care coordination”*(9).

In a recent report, the George Institute called for immediate reform to meet the needs of those with complex chronic conditions and those who are significantly disadvantaged because of a lack of access and / or poor outcomes of care. The report said there was an urgent need to reform health funding and called for a blended payment system(3). A discussion paper produced by the PHCAG stated *“our current health system is not set up to effectively manage long-term conditions”* and suggested *“stronger, more effective, and better integrated and coordinated primary care services are the best way to achieve better outcomes for patients and ensure a sustainable health system into the future”*(5). The discussion paper has a section on possible options to establish a suitable payment mechanism to enable a better primary health care system but did not explicitly present ‘bundled payments’ as an option.

## Funding options for health care

One of the policy interventions to tackle the current fiscal issues in Australia is health payment reform. There are a limited number of mechanisms used to fund health. Quinn identified eight methods (Table 2) and suggests that they are on a continuum(10).

<u>Quinn's framework</u>		<u>Miller's framework</u>
Payment Method	Commonly used terms	
Per dollar of amount charged by provider	<i>Percentage of charges</i>	
Per dollar of cost	<i>Cost reimbursement</i>	
Per service	<i>Fee for service</i>	Number of processes x cost of process
Per day		
Per episode	<i>Bundled payment</i>	Number of services per episode
Per recipient		Number of episodes of care per condition
Per beneficiary	<i>Capitation</i>	Number of conditions per person
Per time period	<i>Salary</i>	

Table 2: Basic mechanisms to fund health care

Miller presents an alternative framework (Table 2) that adds further definition(11), in particular for the key methods being considered internationally to address issues similar to those in Australia. Miller's framework defines the basic unit as FFS, under which a predetermined amount is paid for each discrete service. The service consists of processes and each process has a cost associated to it. An episode consists of a series of services and payment can be for the whole episode. This is where the term 'bundled payment' originated as it covers the bundle of services. However, its utility has been extended and many describe bundling of services that take various forms, with three typically described:

- They may be used to describe payment for services, which are aggregated longitudinally. For example, it might include the pre-hospital elements of an elective procedure, the elective procedure itself and the post-hospital care elements for that procedure such as rehabilitation.
- The pooling of funds for disparate group of providers. This, for example, will often include all the medical specialists required to deliver an episode of care.
- The incorporation of a warranty e.g. includes the management of complications from a procedure.

Capitation is a broader concept using fixed payment per patient or member of population. It is a payment made regardless of the type and amount of services i.e. it is per beneficiary rather than per recipient. The UK has a long history of paying for primary care using a capitation-based model where currently a practice receives the majority of its income for a registered list of patients. Capitation can take various forms. For example, the capitation payment can be made to the individual provider of services, the practice (as in the UK) or a more regional organisation e.g. a primary health care organisation (as in New Zealand). Examples of approaches in the use of capitation based payment models for primary care in different countries is summarised in [Table 3](#).

Table 3: Examples of Capitation Models

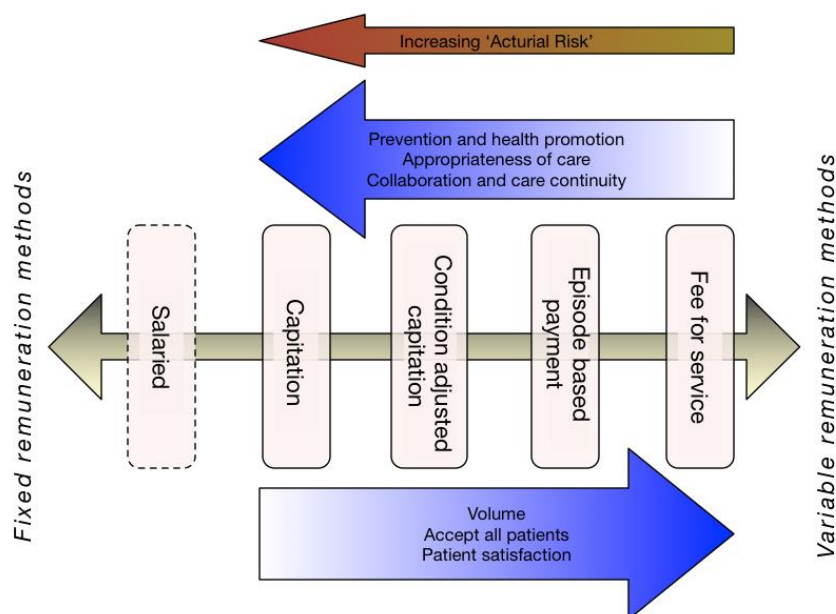
Country	Example of Model
Canada	<p>Health care in Canada is organised on a Provincial basis. There has been experimentation with payment reform and in the Province of Ontario, 80 percent of family doctors have voluntarily moved into a predominantly capitation based model of funding.</p> <p><b>Family Health Organisations:</b> capitation is the primary source of income but they also receive FFS payments (for non-capitated services to enrolled patients, for all services to non-enrolled patients), shadow-billing premiums, after-hours premiums, plus various pay-for-performance bonuses and incentives. These family health organisations can be come part of a newer model of service delivery, <b>Family Health Teams</b>. It is an inter-professional primary health care model with teams of core (i.e. physicians and nurses) and interdisciplinary (e.g. mental health, nutrition, social work) health care providers promoting comprehensive and interdisciplinary services such as chronic disease management, counselling, health education, and palliative care.</p>
New Zealand	<p>New Zealand has a payment system that combines a universal capitated general medical subsidy, patient copayments, and targeted fee for service payments. Capitation-based payments are based on the number of patients enrolled to a primary health organisation (PHO) population and general practice services are provided by member practices.</p> <p>In addition, there are capitation adjustments based on rural ranking and additional payments:</p> <p><b>CarePlus:</b> Funding provided to general practices to improve chronic care management, reduce inequalities, improve primary health care teamwork and reduce the cost of services for high-need patients</p> <p><b>Health Promotion:</b> A capitation fee per patient enrolled to PHOs signed up for health promotion initiatives</p> <p><b>Services to improve access:</b> An additional capitation based payment to reduce inequalities among those populations that are known to have the worst health status</p> <p><b>Very Low Cost Access:</b> A voluntary scheme that provides extra funding in return for PHOs and general practices agreeing to maintain fees within the fees thresholds. At least half of the enrolled population has to be high needs</p> <p><b>Zero fees for children under 13:</b> A subsidy to practice offering zero fees for those under the age of 13</p> <p>A General Medical Services Subsidy exists for treatment where a general practice or an after-hours treatment provider sees a child or adult who is <i>not</i> enrolled in a PHO or cannot access the practice they are enrolled with during business hours or after hours.</p>

	<p>The country is implementing a National Enrolment Service (NES) to provide a ‘single source of truth’ for all national enrolment and identity data including a centralised register with real time patient enrolment status enabling more timely payment calculation for enrolled patients.</p>
United Kingdom	<p>The majority of General Practices are paid on the basis of a national contract. The contract has three components (i) Global sum (ii) Performance related pay (Quality and Outcomes Framework) and (iii) Payment for enhanced services (which may have elements of either FFS, bundled payments and/or performance related payments).</p> <p>The global sum makes up the largest proportion of the revenue and is capitation based per person. The capitation payment is adjusted for age and sex of the patients, rurality, cost of employing staff, the rate of turnover of patients and morbidity.</p> <p>The role of capitated payment is being explored to pay a provider, or group of providers, to cover the majority (or all) of the care provided to a target population, such as patients with multiple long term conditions (LTCs), across different care settings.</p>
United States	<p>The Patient Centered Medical Home (PCMH) is a care delivery concept that is intended to produce greater engagement between the physician practice and its patients, particularly around chronic diseases. The payment models in the US are heterogeneous and varied for PCMHs. Virtually all feature a blend of FFS payments with additional fees that support non-visit related work. Commercial insurers, who pay an enhanced per-member, per-month payment to primary care physicians in addition to FFS, sponsor many PCMHs. Some also pay a care management fee per patient. In addition, there is the potential for additional payments based on the quality of care achieved, shared savings, or both.</p> <p>Following the Patient Protection and Affordable Care Act 2010 and the introduction of ACOs the payment mechanisms have an opportunity to become more diverse. ACOs are groups of providers, with or without an affiliated hospital, who accept joint responsibility for the costs and quality of care for an assigned group of patients. Typically most ACOs have continued under a FFS model, but with eligibility for shared savings calculated against a budget based on historical spending. However, ACOs may move toward more robust risk sharing arrangements with payers, such as full global payments.</p> <p>PCMH are thought to be a foundational element for ACOs because of observed benefits from reduced secondary care utilisation.</p>

In between capitation and episode-based payment is a category that includes the number of episodes per condition. Miller refers to this as ‘*condition adjusted capitation*’ or ‘*comprehensive care payment*’. This is of importance because it is in this area that the definitions in the literature become blurred. In the literature, terms have been used in an inconsistent manner leading to confusion and lack of clarity, particularly with this interim category that is sometimes termed capitation and at other times, bundled payment. Individual funders have developed a range of contracting strategies and this leads to a plethora of terms and a lack of definitional precision. For example, episode-based payment, episode payment, episode-of-care payment, case rate, evidence-based case rate, global bundled payment and global payment are all used to describe bundled payment; however, some authors used these synonyms e.g. global payments to describe capitation. The literature search strategy (**Appendix 3: Method** - page 47) for this paper incorporated the broad

range of terms to be inclusive, and during the review process, the definitional focus was on the broader extended definition of bundled payments.

There are theoretical advantages and disadvantages for each of these payment methods and they are illustrated in Figure 11 and summarised in Table 4. These have been synthesised in a number of papers and are discussed later(12, 13).



Based on :  
MILLER H.D. 2009. From volume to value: better ways to pay for health care. Health Affairs 28: 1418-1428.  
WRANIK D.W. & DURIER-COPP M. 2010. Physician remuneration methods for family physicians in Canada: expected outcomes and lessons learned. Health Care Anal 18: 35-59.

Figure 11: Advantages and Disadvantages of Payment Modalities

FFS has been an approach used in most health care systems. The advantages of FFS are:

- Simplicity
- Per item and easier to manage/administer
- Provides incentives for accessibility

However, it has particular disadvantages. It is increasingly viewed as “an obstacle to achieving effective, coordinated, and efficient care”(9). Davis and others argue that it rewards the overuse of services, duplication of services, use of more costly or lucrative services, underuse of less well reimbursed services, and involvement of multiple physicians in the treatment of individual patients. It does not reward preventative care, prevention of hospitalisation, and effective control of chronic conditions or care coordination. It may encourage delivery of unnecessary care and it rewards errors with payment for correction of clinical mistakes. This leads to increased costs; even if cost containment strategies like fee reduction or freeze are contemplated, it may not reduce cost because spending may rise due to increased utilisation (provided that services remain profitable for the provider)(14).

In order to achieve transformational changes in service delivery, such as the location of care or the way patients move around the system, a transformational change in the flow of money is necessary(15). Hence many health systems around

the world are moving towards alternative payment mechanisms. For example, the Dutch system has introduced a voluntary move towards a bundled payment system for certain chronic diseases to address difficulties encountered by smaller practices, and the delivery of comprehensive care and coordination required for those with chronic diseases(16).

The perceived advantages of bundled payments are:

- Removes incentives based on volume of services provided
- Focuses on care coordination and improved outcomes
- Helps to promote quality and efficiency
- Supports patient choice and competition
- Offers an incentive for elimination of unnecessary services and cost reduction
- Offers an incentive for providers to work together

However, there is a theoretical risk with bundled payments that more episodes of care may be provided than are necessary and that it does not act as an incentive to reduce inappropriate care. For example, in a bundled payment for a pathway of care for cataract surgery, the bundled payment incentivises making the pathway efficient and lean through improved coordination, reduction of volume of services within the pathway and improved outcomes. However, it does not incentivise the volume of patients enrolled in the pathway and so may still lead to overtreatment.

It can be difficult to calculate costs for episodes and the cost for each component, and this can lead to difficulties in appropriately allocating payments across providers. There have been concerns that where bundling is condition specific, it may lead to fragmentation in disease specialties and cause difficulties where patients are experiencing multi-morbidity. Therefore, some have argued that the bundling should occur per patient rather than per episode/condition nudging towards capitation as the payment mechanism. There have also been concerns that it presents a financial risk to providers if the patient requires much more care than usual care assumed in the pricing of the bundle (further discussed below).

Capitation provides further incentive for care coordination and flexibility.

However, risks include under provision of services, and cherry picking of patients to avoid those more complex and at higher risk. For example, providers may only choose to accept those patients who are less complex and straightforward because they only get paid a fixed amount. If they choose a patient with a risk of being more 'expensive' then they are penalised financially.

In order to mitigate against the risk presented by each of these methods, different strategies may be used.

- Capping
  - For example, capping the number of services can prevent excess usage under the FFS.
- Risk Management. There are two types of risk that need to be managed:
  - Performance risk. This relates to providers' ability to manage their patients' conditions in a high-quality and efficient manner.
    - A common mechanism used to manage this is Pay for Performance (PfP). It provides a reward for quality and efficiency, adherence to clinical guidelines, fosters competition amongst providers based on performance,

can further incentivise coordinated care and improve outcomes for those with long-term conditions. However, it is susceptible to gaming, and often focuses more on process measures rather than outcome measures. It has to be able to reward practitioners appropriately and proportionately more for patients with a greater degree of complexity, otherwise it becomes a disincentive to care for more complex patients. The challenge is often the measurement system for PfP, particularly in those older patients with complexity and multi-morbidity, when there comes a time adherence to clinical guidelines may have detrimental effects(17).

- Insurance or actuarial risk. This is either when a patient has an illness or other condition requiring care or when service utilisation for that care is much greater than anticipated
  - Adjusting for case mix
    - . In the more fixed methods of payments (and in PfP) the complexity of patients being looked after can be managed by providing an allowance for case mix. For example, comprehensive care payments in the US adjust for the case mix as a strategy to mitigate against providers avoiding more complex patients. Goroll has presented a model replacing “*encounter-based reimbursement with comprehensive payment for comprehensive care*” for primary care practices establishing themselves as advanced medical homes(18). In this model, payments would include a base payment, a performance-related payment and a transformation payment to work towards an advanced medical home. Although presented as a theoretical model, others have performed modelling to support replacing fee for service payments in a medical home entirely with bundled care-coordination payments and large bonuses(19, 20). They have shown that existing data can support the risk-adjusted bundled payment calculations and performance assessments needed to encourage desired transformations in primary care.
  - Outlier payment policy(21)
    - . Under such a policy if the loss from providing care to a patient exceeds a specified threshold, the provider receives an extra payment.
  - Gain and loss sharing(21)
    - . In such a policy there is an agreement between the payer and provider to share any gains and losses. For example, in setting a bundled payment target for providers the payer agrees to cover some portion of their spending in excess of this target. In return, providers would share with the payer any savings achieved if spending fell below the target. Such an approach requires a mature commissioning system.
- Combining the primary payment method with another method.
  - Pay for Performance
    - Combining a payment approach with PfP can mitigate against any inherent disincentives to compromise on quality (as discussed above).
    - Blending with other methods
      - . Blending the different methods into an overall payment model in the right proportions can offer synergies to optimise the benefits and minimise the disadvantages.



Table 4: Advantages and Disadvantages of payment methods

	Capitation	Bundled Payments	Fee-for-Service
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Incentivises cost containment by providing funders with control over overall expenditure</li> <li>• Incentivises preventative activities</li> <li>• Promotes greater use of skills mix and team based care</li> <li>• Promotes care coordination</li> </ul>	<ul style="list-style-type: none"> <li>• Reduces incentives based on volume of services</li> <li>• Helps promote quality and safety of care</li> <li>• For services within the care bundle incentivises for elimination of inappropriate care and promotes efficiency</li> <li>• Encourages team based care</li> <li>• Facilitates a focus on care coordination</li> </ul>	<ul style="list-style-type: none"> <li>• Greater access to care</li> <li>• Simpler system leading to ease of data collection and payment</li> <li>• Supports geographical variation in health care use and spending</li> <li>• Encourages physician productivity</li> </ul>
<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>• May prevent access for those with greatest need (cherry picking), particularly if the capitation payment is too low</li> <li>• Providers may withhold or restrict access to more expensive care</li> <li>• Introduces an additional financial risk for the providers ('insurance' risk)</li> <li>• Incentivises under-provision</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to define and calculate costs</li> <li>• Difficult to allocate payment across providers appropriately</li> <li>• May encourage fragmentation by working in condition specific pathways</li> <li>• May prevent access for those with greatest need (cherry picking)</li> <li>• May introduce a financial risk for the provider, particularly in relation to performance</li> <li>• Data intensive</li> </ul>	<ul style="list-style-type: none"> <li>• Incentivises volume of care increasing financial risk for payer ('supplier-induced demand')</li> <li>• Does not incentivise outcome (quality) over output</li> <li>• May lead to over-provision; inappropriate care</li> <li>• Does not incentivise prevention nor coordination</li> <li>• Encourages overuse of lucrative services and underuse of less well reimbursed services</li> <li>• Does not incentivise for patient safety</li> </ul>

## Literature review

The key objective of the literature review was to address the following two questions:

1. What is the evidence for impact of bundled payments, particularly in primary care?
2. What are the enablers, barriers and lessons for implementation in Australian primary care from the experience of other countries?

A summary of all the papers reviewed and their findings is available in Appendix 6: Summary list of papers reviewed

(page 54). The following is a summary and synthesis from the key papers.

### The Australian Experience of Different Payment Models

Over a number of years, the Australian health care system has been evolving its funding mechanisms. Previous funding initiatives for general practice include Enhanced Primary Care (EPC), introduced in 1999-2000 offering incentives for GPs to improve the health and quality of life of older Australians, adult Aboriginal and Torres Strait Islander people and people of any age with a chronic or terminal condition(22). Subsequent iterations introduced comprehensive medical assessments for vulnerable populations, multidisciplinary care plans, case conferencing, and home medicines review. It also included funding via Divisions of General Practice to provide access to allied health care for patients with chronic conditions referred by a GP. In 2005 multidisciplinary planning was replaced by MBS rebates for chronic disease management, which included rebates for access to allied health providers for patients with chronic and complex conditions referred by General Practitioners. They have been on a FFS basis. The government has also introduced other measures to create a more blended payment system incorporating PfP incentives. There are two components to this:

- Service Incentive Payments (SIP) - an additional payment for achieving a goal e.g. completion of a cycle of care for asthma or diabetes.
- Practice Incentive Payments (PIP) - a practice-based payment for meeting specific, practice targets (e.g. providing after-hours care or having a quality computerised record system)

The increasing health expenditure trend has led to experimentation with the aim of improving efficiencies and creating a more integrated system of health. *“In Australia’s fragmented system, this took the form of a series of trials, rather than a widespread process of health system reform as occurred in the UK and New Zealand (NZ)”*(23).

None of the trials identified in this review of financial levers used in Australia have used bundled payments. However, the Coordinated Care Trials (CCT) are discussed

because pooled funds, a key element of the CCTs, are necessary to allow for more efficient reallocation of funding across the system. They also provided the opportunity to consider streamlining these funds through an alternative approach (which may include a bundled payment one)(15). The Diabetes Care Project (DCP) is a more recent initiative(24). It had one intervention group that was funded using a blended payment system; one of the components of this was similar to a bundled payment.

### Coordinated Care Trials

The CCTs were initiated by the Commonwealth Government. The first round, between 1997-1999, was a series of nine trials across six states and territories. Only one of the trials (SA HealthPlus) based participant inclusion on specific diagnoses, which included respiratory disease, diabetes, cardiovascular disease, stroke and somatisation. There were four Aboriginal coordinated care trials. The interventions varied by trial but all were testing whether coordination of care for people with multiple service needs, utilising individual care plans purchased through funds pooled from existing programs, resulted in improved health and wellbeing within existing resources. In general, the trials did not demonstrate improved health and well-being of the participants. A significant reduction in hospital admissions in the intervention groups compared with the control group was seen in three of the trials, and for most trials an accrued operating deficit was found. The SA Health Plus trial successfully implemented a generic model of coordinated care with improved health outcomes but it was not cost neutral. Authors reporting on it commented *“organised care for chronic illness in Australia requires commitment from state and commonwealth governments to pool funds and information systems that provide population data and decision support. A change in the business processes of general practice will be required”*(25). The EPC items described above were introduced just prior to the final reporting of the CCT. Commentators of the trials described a number of shortcomings of the design but a positive finding was that fundholding allowed the trials to fund strategies, such as quit smoking interventions, that otherwise would not have been possible(26).

The element of relevance for this paper from the CCT trials is the experience of pooling of funds. These could not be any larger in amount than would have been used by the end user if they were not in the trial and essentially provided a ‘capped’ pool, unlike MBS and PBS. The funds were drawn from:

- Commonwealth Medicare Benefits Scheme (MBS)
- Commonwealth Pharmaceutical Benefits Scheme (PBS)
- Joint programs such as the Home and Community Care Program (HACC), and
- State-Territory Hospital funds.

Residential aged care programs were excluded as the funding could not be easily transferred into the pools. The challenge was in the calculation of the pool to ensure it met the needs of participants. It was calculated using historical information over a six-month period prior to commencing care coordination. It compared this with any other available utilisation data to adjust for case-mix and it compared utilisation with the control group on an ongoing basis during the trial. The trial received the funds for each client on a capitation basis and providers

then billed the trial. It is not clear from the papers identified for this review whether different funding mechanisms were used at the provider level, and in particular for general practice. In relation to the funding mechanism, and of relevance to the objectives of this review, it is useful to acknowledge that the trial demonstrated(27):

- funds pooling between governments is possible, and that providers can cooperate at a local level to design and develop a radically new approach to health care in Australia
- the Australian health care system can develop and implement world class information management and care planning systems, and
- major cultural shifts away from the traditional antagonism and rivalry between different players and toward cooperation are possible.

A second round of six CCT were undertaken between 2002-2005, three of which were in Aboriginal communities. The pooled funding in this round was distributed based on a 'risk-based capitation model' created at the end of the first round of trials. The approach for the three Indigenous trials was different to the three general trials because of the very different health and chronic disease profile of Indigenous populations. The overall finding was that pooling funds facilitated flexible purchasing arrangements. However, not all stakeholders were fully prepared to commit to pooled resources; the main reason being the uncertainty, and hence risk, surrounding their estimated funding compared to an unknown potential service utilisation (insurance risk). This evaluation concluded a need for more research on the development of funding models using longitudinal utilisation and cost data at an individual level. The high level of variability and uncertainty in health care utilisation, which "*means that a one-off 'cash-out' or receipt of a health funding budget involves considerable risk to both the purchaser and provider; the management of this risk also requires further research and discussion*"(28). The insurance risk has been identified as a disadvantage and barrier in the implementation of bundled payments and capitation as outlined previously, although, since the CCTs there has been further experience internationally in strategies to circumvent this risk.

### Diabetes Care Project

The DCP (24) was established in response to two of the recommendations published by the National Health and Hospital Reform Commission (NHHRC) in 2009. The first recommendation was that chronic disease should be managed in primary care settings through voluntary patient registration in '*health care homes*.' The second recommendation was that the Commonwealth consider innovative funding models that include a quality component to manage population health. It specifically suggested a mix of salary, fee for service, grants, payments for performance and quality, and payments for episodes of care.

The DCP was a randomised cluster-controlled trial with a usual care group and two other groups(29):

- Group 1: an integrated information platform and continuous quality improvement processes within the current funding model.

- Group 2: As for group 1 + flexible funding based on risk stratification + payments for quality + funding for care facilitation.
  - Flexible funding
    - General Practices received an annual payment per person with diabetes enrolled. Practices could determine how to allocate this funding. Each patient was risk stratified into one of five categories. Practices were not entitled to claim additional chronic disease management items, but could claim for standard consultations and other items.
    - Allied health providers were paid directly on an activity basis with a cap. In addition to the usual types of consultation available under MBS, four other types of consultations with allied health were available. The type of consultations was determined by the GP during the care planning process.
  - Quality Improvement Support Payments
    - General Practices were paid retrospectively for achieving improvements in clinical outcomes, processes of care and patient experience.

#### Findings:

The study showed that in those practices randomised to Group 2:

- The quality of diabetes care improved as measured by intermediate clinical indicators, adherence to recommended clinical processes, and patient satisfaction. The latter included patient perceptions of continuity of care
- They were able to be more innovative and patient-centred in the way they delivered care
- There were no statistically significant changes in affordability
  - The out of pockets costs for patients in the three groups were not statistically different but the authors recommended close monitoring

The improvements in quality, particularly of information recording and intermediate clinical indicators, were attributed to the pay for performance component.

The evaluation concluded that a wider rollout of the funding levels for Group 2 interventions would not be cost effective and would need to be recalibrated. The evaluation made three specific recommendations. These include:

1. A flexible funding model for chronic disease care targeting resources to achieve maximum value. Components recommended include enrolment; a performance related element and funding for care facilitation
2. Development of e-health and quality improvement processes
3. Better integrate primary and secondary care and reduce avoidable hospital costs

## The International Literature

A technology assessment by the US Agency for Healthcare Research and Quality undertook a comprehensive review of the effects of bundled payments on spending and quality(30). The assessment identified international and US papers, however none of the papers included in the final review incorporated primary care. The only paper that did was excluded because a full evaluation was not available. The assessment concluded that the introduction of bundled payment was associated with:

1. Reductions in health care spending and utilisation, and
2. Inconsistent and generally small effects on quality measures.

These findings were across all the different bundled payment programs identified by the review. The authors rated the quality of evidence as low, mainly due to concerns about bias and residual confounding effects.

They identified a number of caveats for consideration by policymakers:

1. Future bundled payment programs will be different to those reviewed in this study. (80% of the bundled payment interventions studied were limited to payments to single institutional providers e.g. hospitals, skilled nursing facilities). This limits the ability to extrapolate the findings to newer programs which include multiple providers.
2. They noted that bundled payments have the potential to either adversely affect quality or be used as part of a quality improvement strategy. Hence future bundled payment programs need to have an integral and robust quality monitoring and improvement component.
3. The quality of evaluations of programs was low and further policy change should be subject to more rigorous evaluation.

The project that incorporated primary care, but was excluded from the Technology Assessment, described the implementation of a bundled payment across three sites and was designed to pay for all of the care required to treat a defined clinical episode, particularly those services recommended by clinical guidelines or experts(31). It defined twenty-one medical conditions as part of the bundled payment program, including chronic diseases such as diabetes. The sites experienced significant implementation challenges (discussed in the section on barriers). Despite the challenges, some intermediate benefits were observed. These include:

- participants (health systems and providers) finding it valuable to use as a measurement tool
- enabled the initiation of new care coordination activities
- improved communication amongst stakeholders

Moreover, the authors concluded that their findings did not provide support for discarding bundled payment in favour of alternative payment methods.

The RAND Institute reviewed the success of value based purchasing programs(32). The authors identified three papers in relation to bundled payments. They had

applied inclusion criteria that limited them to an examination of bundled payment arrangements to those that included both cost and quality performance components to assess value. The setting of the three studies included hospital, physicians and post-acute care. They found:

1. Clinical quality: Only one of the three studies examined the effect of bundled payments on process measures. The study found that adherence on 40 clinical process measures increased from 59 to 100 percent. However, this was in a single integrated organisation and so the transferability to other settings may not be possible.
2. Cost: Two studies measured this and both found a cost reduction. One was of the order of 5 percent whilst the other found a \$USD2,000 reduction in the cost per case over the two-year period.
3. Unintended consequences: There were none identified, however, the expert panel overseeing the review recommended monitoring for potential unintended consequences. These include the loss of revenue for providers caring for disadvantaged populations, the excessive exclusion of patients when that is an option in the program, access barriers and patient turnover from practices related to providers avoiding more difficult patients, and market concentration and price effects in the context of Accountable Care Organisations.

The Netherlands has introduced bundle payment system for diabetes care, vascular risk management and chronic obstructive pulmonary disease(16). De Bakker *et al's* paper is one of the few that provides insights into the use of bundled care within primary care. In this model of care, the insurers pay a single fee covering all primary care elements for the specified conditions to a '*care group*', which is the principal contracting entity. The care groups consist of multiple health care providers (and are often owned by General Practitioners).

The insurer negotiates the bundle payment level with the care group. The care group can choose to provide the service or may subcontract it to other providers e.g. GPs, allied health. In the latter case it would negotiate payments with the providers. The services to be included in the bundle had been set nationally in disease specific health care standards.

The positive outcomes observed were better collaboration, better process quality (adherence to protocols) and more transparency. However, the effects on intermediate patient outcomes such as blood sugar levels and costs were unknown. A separate discussion paper has stated that there were no improvements(33).

The negative consequences were dominance of the care groups by General Practitioners, large price variations, and the administrative burden. The large price variations were partially explained by three factors(33):

- variation in actual differences in care provided
- lack of experience of purchasers and providers on price setting in the initial period
- varying interpretations of national standards

The insurers perceived the bundled payment as a black box, not knowing what was happening at the patient level. One of the insurers expressed concerns about the

lack of clarity and not knowing what services were being paid for, hence concerns about double dipping. However, there was criticism in another publication on the lack of direction from the payer(34). The authors point to other research showing large variations among care groups with regard to price as well as to reported performance information. They expressed concerns about additional administration in the contracts between insurers and care groups, in addition to concerns about the lack of competition.

The care groups reported perspectives were generally positive, particularly the ability to influence care process, to supply health care providers with feedback about their performance relative to the average care group performance and to give insurers information about performance. They were concerned about the administration (e.g. negotiating and managing multiple contracts with different insurers) and the dominant position of the insurers. They experienced challenges in assigning correct payments to providers particularly when the patient had multi-morbidities, and the lack of their ability to shift savings from speciality care to reinvest in primary care. Despite this, a separate analysis showed no differences in quality of care received by those with co-morbidities(35).

The subcontractor perspective was positive with recognition that it improved coordination of care. A separate review of the perspectives of dieticians confirmed their perceptions of an increase in multidisciplinary collaboration, improved efficiency, and greater transparency(36). However, subcontractors had concerns about the dominant position of the care groups and their ability to remodel the care to be provided by different providers. There were concerns about conflicts of interest with high levels of care group ownership amongst GPs. GPs also raised concerns about fragmentation with disease based funding. In addition, the dieticians were concerned about the increased administrative burden, lack of payment for patients with co-morbidity and a risk that dietetic care may be substituted with care provided by other disciplines(36).

A consistent emerging theme from the Netherlands experience relates to the flow of information and administrative burden, suggesting the necessity of effective information systems.

Further implementation of bundled payments for other chronic diseases was being considered in the Netherlands. However, this would make the problem of how to deal with patients with multiple diseases even more complex. The authors speculated that the introduction of bundled payments might turn out to be a useful step in the direction of risk adjusted integrated capitation payment for multidisciplinary provider groups offering primary and specialist care for a defined group of patients.

Appleby *et al* conducted a review of the international literature whilst exploring how payment systems might help to deliver better care in the English National Health Service (NHS). They noted that many countries are dissatisfied with the limitations of activity-based payments for patients with long-term conditions and complex ongoing needs. They cite the following examples of bundled care initiatives:



1. Netherlands - a large-scale initiative to contract doctor-led groups for a year of care for selected chronic conditions (described above).
2. US - pilots of bundled care payments on 'episode treatment groups' that bundle physician, acute hospital, post-acute and ambulatory care costs from referral or admission to recovery for an extended episode of care.
3. Sweden - piloting of extended episode payment for joint replacement, combined with patient choice and provider competition.

They urge caution in the use of bundled payments, and identify defining episodes of care, payment rates, and distribution of incentives across providers as challenging. In their critical analysis of the application of bundled payments to the English NHS they conclude:

1. Uncertainty about its place in the NHS, which has a different context
2. The division in the commissioning structure of primary care and acute care would make it difficult to translate

They comment that bundled payments have stimulated better coordination, improved the quality of data, improved clinical engagement, and improved relationships between payers and providers.

The American Medical Association commissioned an assessment of the effects of implementing new payment models on physicians' practices(37). The alternative funding models included pay of performance, capitation and bundled payments.

The findings included:

- change in organisation structure through merger with other practices or bigger organisations was required to enable them to respond to the structural changes required from different payment models e.g. investment in information technology
- the development of team approaches to care management was encouraged, featuring prominent roles for allied health professionals
- a serious tension could also arise when practices participated in a mix of both FFS and risk-based contracts resulting in conflicting incentives to increase volume under the FFS contract, while reducing costs under the risk-based contract
- there were expanded options for patient access
- investment in data management capabilities is necessary
- there were negligible effects on the aggregate income of individual physicians
- those, particularly in non-leadership positions, perceived the changes with less enthusiasm. They experienced much non-clinical work and felt pressure to practice at the top of their licence

## Impact of bundled payments

The greatest evidence for impact of bundled care payments is in relation to cost and efficiency. This is demonstrated in the studies described above as well as others. For example, a review of cardiovascular services (mostly specialist) concluded bundled payment initiatives have demonstrated modest potential to curb health care costs without decreasing quality and potentially even improving it(38). Some studies have suggested substantial health care savings by moving from a FFS model to bundled payments for episodes of care, whether in a stand-alone program or as a component of an overall global-payment model. Other studies have tried to quantify the savings and found them to be in the region of approximately 5 to 10 percent relative to FFS arrangements(32, 39). Some authors have speculated that the savings may be greater with widespread use of bundled payments than studies of individual plans suggest(14). The systematic review suggested it was promising strategy for reducing health care related costs(30). However, less positively, large price variations were also found in one study that were not fully explained by differences in the amount of care provided and at a significant administrative cost(40). Other studies have been able to articulate the reasons for variations in different interpretations of the bundle, differences in care provided and the learning curve amongst payers and providers as new payment mechanisms are implemented(33).

Conceptually, authors have postulated that under a FFS payment structure, if providers use all the services that could benefit the patient, then a reduction in the use of services could result in a reduction in quality when the payment system changes to a bundled payment. On the other hand, if FFS leads to excessive use of services, or the failure to compensate for the time for appropriately coordinating care, or the failure to offer effective services that are not billable, then bundling might improve the quality of care(30). An empirical analysis of hospitals in Italy concluded “*our results should reassure policy makers about the possibility of adopting PPS to improve the efficiency of health systems without eroding quality of care*”(39) (Prospective Payment System (PPS) is a type of bundled payment). The primary care study of bundled payments in the Netherlands found improved adherence to processes of care(16). The DCP in Australia, in the intervention group with a reformed payment mechanism, did observe an improvement in outcome measures but attributed it to the pay for performance component(24). Similarly, Damberg *et al* found a significant improvement in process measures in one of the three studies they reviewed but their inclusion criteria required the value based designed elements to include a cost and quality component(32).

Very few of the papers identified directly measure the effect of bundled payments on improving access, equity of care or patient experience. The DCP observed an improvement in patient satisfaction and continuity of care(24). One study commented that alternative payment models that incentivised containment of total costs of care also increased the importance of offering expanded options for patients to access care from physician practices(37) and the DCP in the intervention group offered additional types of services with allied health(24).

If bundled payments are designed and define the right population then they may potentially improve equity of care. However, there is also concern that they may reduce equity of care as providers may not be willing to look after those with more complex needs and hence this could be an unintended consequence (cherry-picking). It was not observed in the review by Damberg *et al*, although the expert advisory panel for the review recommended bundled care programs should monitor for “*the excessive exclusion of patients when that is an option in the program, access barriers and patient turnover from practices related to providers avoiding more difficult patients*”(32).

### Unintended consequences

The potential for unintended consequences include an impact on equity of care which has been discussed above. The Netherlands study reported a number of negative perspectives rather than unintended consequences. Insurers in the initiative felt uncomfortable because they did not have patient level data but rather aggregated data about the episodes of care and therefore saw the initiative as a ‘black box’ with resulting concerns about the possibility of double dipping(16). There were additional administrative costs and some actors felt uncomfortable about the dominance of general practitioners in the care group with potential for conflicts of interest.

### Mechanisms of Impact

The impacts include an improvement in quality and cost savings. There appears to be various mechanisms by which this was achieved. The mechanisms include:

- Adherence to protocols (32, 41)
- A shift to team based care(37)
- A greater degree of care coordination(16, 40, 41)
- Reduced waste and errors
- Development of organisation capability - for example a survey commissioned by the American Medical Association sought views of physicians about the alternative payment models. Physicians reported that they were changing the organisations structures of their practices to better equip themselves to respond to the challenges of the payment reforms(37)
- Development and better utilisation of data systems(37) and more transparency and accountability(16)
- Service redesign. For example, Eapen found that using bundled payments for patients admitted with heart failure would lead to a redesign of the program to introduce elements of case management and reduce readmissions(42)

### Enablers

The success of any payment reform will ultimately only work if providers respond to the change. This means that any incentive or disincentive caused by a payment reform has to filter down to the provider level; it also means that any risk from the payment reform has to be carefully managed and minimised at the provider level if reform is firstly going to be accepted, and secondly translate into the change in behaviour it is trying to achieve.

An editorial discussed a number of factors that were important enablers(14):

1. The size of the provider group: The optimal size of the provider group is unknown. It needs to strike balance between being sufficiently small so that

financial benefits when they flow through to an individual provider level are sufficient. However, it has to be sufficiently large to ensure the group has the capacity and capability to deliver against the specification of the bundled payment. The review on bundled care described enabling factors as including the capabilities and goals of participating organisations and the degree to which these organisations are integrated, as well as staff and patient characteristics(30). In response to the introduction of bundled payments in the US, providers have responded by changes in their organisation structure through mergers with other practices(37).

2. Distribution of incentives: The contracting for bundled payments may occur with an entity which then subcontracts with the providers e.g. as in the Netherlands example. The incentivisation occurs at the level of the group but as mentioned above it needs to filter down to the provider. The authors in this editorial cite the complex interaction between group level and individual level incentives and identify a need to understand the impact as an important topic for future research.
3. The fair and equitable management of risk is a critical enabler. The strategies for this have been discussed above in the section entitled **Funding options for health care**.
4. The determination of future payment for the bundled service determines how providers respond. The evidence suggests bundled payments have a potential to result in savings. If as a result of those savings, future payments are reduced or not increased, then there is a risk that providers' motivation to redesign services may be discouraged. A fair and transparent mechanism that creates a win-win scenario needs to be instigated as an enabler and to avoid this potential perverse incentive.

## Barriers

A bundled care initiative in the US, which included chronic disease management bundles, encountered significant delays and challenges in implementation to the extent that after three years of preparation to support a bundled payment model, pilot participants still had not executed new payment contracts(31). The experience of that initiative provides a useful construct to explore the barriers.

The challenges faced included:

1. Defining bundles: There needs to be a shared understanding of what is and isn't included in a bundle before it can be operationalised. The technical challenges of defining care bundles and agreeing with clinicians what care should be included and which care costs are potentially avoidable, can take a long time(43).
2. Defining the payment method: There is no one approach to paying for a bundle. The payment will depend on the bundle definition but also whether the risks lie on the side of the payer or purchaser. In this particular initiative the 'technical risk' associated with care provision was to be on the provider side and the 'probability' risk or insurance risk on the side of the payer. In addition, the risk management requires adjustment for case-mix. In order to define a price, payers use existing claims data to calculate bundled care payments. The main

problem is that the actual primary care activity level, or the money spent on providing comprehensive services, cannot be observed directly. This is because existing billing data reflects the state that the reform is seeking to redress: many services that the bundled payment is intended to encourage are often not done, or even if done, are either under compensated or not billable(20).

Whellan *et al* undertook a financial modelling exercise for bundled payment of a heart failure management service(44). They identified in this exercise that the insurers benefited but overall there was net loss on the delivery/provider side.

3. Implementing quality measurement: Administrative and data costs and complexity is higher and requires upfront investment of time and resource(43). In some health systems the existing data systems with appropriate linkages were capable of supporting the analysis required but the challenge was in implementation(45).
4. Determining accountability: Bundled payments will bring together a number of providers potentially across multiple settings. Firstly, the provider organisation needs to know a bundled care payment has been initiated, secondly the clinicians have to collaborate and work together to deliver the care and thirdly, the provider organisation that received the bundled payment has to have a mechanism to remunerate each of the care providers. A useful strategy here may be ‘*virtual bundling*’ as a transitional step(11). In this strategy, the payment is still made separately by the payer to the individual providers but the overall pricing is a ‘bundled payment’ contract.
5. Engaging providers: Providers have to firstly agree to the change in payment structure and then have to engage in working together on a service redesign and new way of working. Successful engagement with clinician stakeholder groups requires their leading role in decision-making; they need to be involved in defining the bundle, in managing care, and in defining the responsibility of each provider involved(46). For example, in the Australian DCP the initial concept required modification to respond to concerns expressed by the Australian Medical Association and Royal Australian College of General Practitioners(24). As Miller identified, providers will need to change their internal processes, methods of coordination and even organisational structures to actually create better care, which takes time(11). A co-design approach can facilitate and prevent problems with engagement as demonstrated by the experience of an orthopaedic practice in the US(47). This case study demonstrated the value of co-design in all the process steps including defining the bundle, selecting patient populations, specifying outcomes, ensuring patient engagement and estimating costs and price settings.
6. Care design: This has been described as a ‘chicken and egg problem’ in driving effective service redesign. Payment bundling without organisational and managerial integration created service delivery and financial risks; but without payment bundling, providers lack the incentive to redesign care(43).

Appleby *et al* in their assessment and applicability of bundled payments for the English NHS were very uncertain about their utility for single disease or conditions. They cited a number of barriers to its implementation in the English context and suggested that bundled payments would need to operate alongside other payment models.

## Workshop Findings

A workshop was hosted by AHHA in September 2015 to facilitate discussion on the scope of bundled payments in Australian primary care. Participants were provided with a draft of the literature review prior to the workshop. The workshop agenda and format are detailed in **Appendix 3: Method (Workshop)** and **Appendix 5: Workshop Case Study**. The workshop invited participants to:

1. Consider the current funding streams of a patient with a newly diagnosed chronic illness and his subsequent health care journey
2. Explore a balanced perspective of the role of bundled payments in Australian primary care

### Current Funding Streams

Participants were invited to participate in an exercise on mapping current funding streams for a patient. The patient's history and journey are described in detail in **Appendix 5: Workshop Case Study**. Some participants were asked to explore opportunities for bundling in this patient journey.

Participants attempted to map the funding streams. The feedback from this process included the following.

- There were multiple potential funding streams for the same patient. These included:
  - MBS
  - PBS
  - Chronic disease management items numbers within MBS
  - Private Health Insurance
  - Public Hospital Funding (block funding or activity based funding)
  - Patient co-payments or self funding
  - Service Incentive payments for general practices e.g. diabetes cycle of care
  - Practice Incentive payments for general practices
  - Better Access initiative
  - Access to Allied Psychological Services (ATAPS)
- In addition, for some population groups there were additional/different funding sources
  - Aboriginal and Torres Strait Islander e.g. Closing the Gap
  - DVA Gold Card
    - GP Co-ordinated care veterans program (CVC)
  - Populations in rural areas
  - Jurisdictional variation
- Participants raised a number of other issues relevant to quality care and integration. These included:

- A lack of incentives to bring services to patients building on the medical home concept; instead patients are being referred onto multiple providers leading to fragmentation
  - *'some of the hidden costs here are repetition of pathology and imaging that may have already occurred, might even be on the national or eHealth system, the specialist might or might not choose to have access, .... they might not even indeed have the capability to'*
  - *'a cost that we may not see, which is the cost of the communication gap. And people being unnecessarily readmitted to hospital at thousands and thousands of dollars of expense that could have been saved by integrated care earlier on in the piece'*
    - *'Well and good to be discharged home, but if the discharge summary doesn't make it to the general practitioner within a reasonable time frame we can have an example of what we saw in Queensland in recent months: where a patient was commenced with warfarin, they got sent home, the GP received the discharge letter to be careful about polypharmacy with all the medications, but unfortunately that discharge letter was received by the GP four days after the patient had already died from complications of their medication'*
- The system currently has perverse incentives for cost shifting or regulations that create waste or additional costs
  - *'potential shift of cost to other payers.... in the public system you can get an outpatient clinic or you can come to my clinic down the road and I can see you next week and not in the next three months'*
  - *'What does strike you though is there is a push back in our complexity between the funders e.g. whether our private funders is pushing back to use the BC items first'*
  - *'a classic example in terms of funding drives behavior and certainly not patient focused is tertiary hospitals around the country; when there is an outpatient occasion of service delivered investigations in cardiology and radiology can't be charged to the Commonwealth on the same day. So the patients, you know, hundreds as they are forced to come back on a different day for the test'*
- The process of mapping current funding streams is complex
  - *'is just the complexity of when you came over and mentioned that don't forget this patient might be Aboriginal or might be DVA. I think trying to figure out, you know, what options are available, what payment systems are available for different sections of the population is quite complex'*
  - In talking about allied health care *'we really came out with the multiple, multiplicity of options for funding and providing these types of services. There was a variety of potential co-pays, there is bulk billing, there is private, there is community health, private insurance, coaching even primary health networks providing some of these type of services. And the choice from the patient's perspective is often impacted by conditions like the expected waiting times the cost and the affordability for them. Their previous experience or relationships with the systems and also by their own clinicians, their GP and their relationship and their views'; 'another dependency is how well the GP knows the system itself'*

- Care pathways are currently not patient centred and lack a wider outlook beyond their immediate health need. Participants questioned how the pathway would be different *‘if there was a patient controlled budget; what would they choose to go to and how would that improve the access and service utilisation?’*
- The complexity of the current system carries a significant administrative resource burden
  - *‘what the cost is of administering this and a number of transactions that take place and a number of different parties that are involved in actual transactional cost that is unrelated to the actual delivery of care’*

Three groups of participants were invited to review the patient journey and explore which components of that journey had the potential for bundling. The responses are described below:

- Participants experienced difficulty in identifying which services should or could be bundled - *‘we spent 99% of our time having a debate on how on earth we could bundle this . . . it was quite a challenge we decided to go with the chronic disease and give everything a red dot that’s got something to do with the chronic disease, but boy it was a challenge.’* The ambitious bundling actually extended beyond primary care components and included specialists and allied health components. In doing so they provide an illustration of how bundling brings together the possibility of vertical and horizontal integration. Other groups were more conservative with options for bundling. Their scope for bundling was limited to primary care elements related to the chronic condition, hence focusing more on horizontal integration. However, interestingly this group had the ambition that *‘we would like primary healthcare to be purchasing all of the healthcare from the whole system ultimately but that’s a bit of a way off.’*
- Some groups started to redesign the pathway. For example, one group commented that this process was linear and *‘it shouldn’t be a linear process, it should be a circular holistic process with the person in the center and the care available to them in the right place at the right time’*. A care coordinator should be utilised early on in the journey - *‘care coordination at the front is the answer’*. A much greater emphasis on patient education also needs to be placed at the beginning.
- Participants described that a greater challenge would be effective change management should an alternative payment mechanism be introduced. There would be some providers who benefit and others who do not (*‘the harder bit would be the fact that some people might lose money out of this and some people might actually be more in control of money.... some would capture the commissioning element of it ahead of other specialists or ahead of other parts of the system’*).



In conducting this exercise the participants experienced a pseudo-simulation of the process steps (Figure 12) required in order to progress towards bundled payments (48). They were required to explore current costs in providing care, define the process steps and consider areas for bundling. In doing so, they also started to consider redesign of care; one of the mechanisms by which bundled care improves quality and reduces cost. Participants also began to articulate elements of what health care may look like if funding reform options (page 37) are implemented, particularly options 3 and 4.

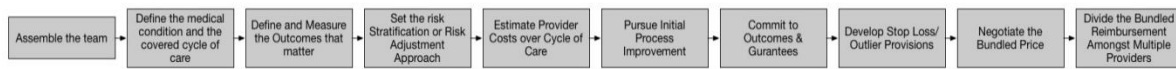


Figure 12: Process steps for implementing bundled payment

### Bundled payments in Australia – a balanced perspective

Participants were then asked to participate in an exercise using De Bono’s thinking hats. Groups were assigned one of four ‘hats’ and asked to consider the issues related to ‘bundled payments’ in Australian Primary Care from the perspective of their given ‘hat’. The feedback from this exercise is summarised in Table 5.

Table 5: Bundled payments in Australia - a balanced perspective

'Hat'	Descriptor of Hat	Feedback
<b>The Yellow Hat</b>	The Yellow Hat symbolizes brightness and optimism.	<ul style="list-style-type: none"> <li>• Commonwealth as a large funder has the structure to bundle streams. Private health insurance could similarly bundle streams.</li> <li>• The independent pricing authorities are undertaking an exercise of activity based funding for non-inpatient care. That process could inform the process of bundling. A similar exercise is being conducted for mental health.</li> <li>• Pathways of care for a number of conditions or episodes of care have already been mapped</li> <li>• Providers include large aggregate service providers e.g. state funded community care or corporate general practices which often also provide ancillary services</li> <li>• The introduction of PHNs provides an opportunity to be fundholders and commissioners that pay for care using bundled options</li> <li>• Consumers would benefit from clarity of providers, improved integrations and pathways and improved self support</li> <li>• Potential savings can be reinvested and the financial flows follow patient centred care</li> </ul>
<b>The Black Hat</b>	The Black Hat is judgment -- the devil's advocate or why something may not work	<ul style="list-style-type: none"> <li>• Bundling needs to focus on preventions and health promotion otherwise the potential benefits are not optimised</li> <li>• The quality of data is low and not sufficient to calculate the denominator in the value equation</li> <li>• It requires significant knowledge and capacity building both for providers and purchasers</li> <li>• There are risks with respect to cherry picking</li> <li>• There is a balance between bundling to optimise care for the individual or for the population</li> <li>• Removes or reduces choice for consumers</li> <li>• Resistance to change</li> <li>• The change will take time and will require political will if it is to survive political cycles</li> </ul>
<b>The Green Hat</b>	The Green Hat focuses on creativity: the possibilities, alternatives and new ideas.	<ul style="list-style-type: none"> <li>• There are opportunities to join up the system using a wide area network connectivity</li> <li>• Bundling care around social determinants of health; hence broadening the scope to deal with the root causes</li> <li>• Opportunities to bundle MBS and PBS is an area that has not been discussed in detail</li> <li>• There are potential opportunities in improving access and so bundled payments could explore costs of transport; tele-health and use of technology</li> <li>• Maximise the potential of coterminous PHN and LHD boundaries</li> <li>• Don't bundle inefficiency e.g. routine script renewals</li> </ul>
<b>The Red Hat</b>	The Red Hat signifies feelings, hunches and intuition	<ul style="list-style-type: none"> <li>• That bundled payments presents an opportunity to improve coordination and team work</li> <li>• A longitudinal bundling model would offer the best fit</li> <li>• There were complexities in bundling given the plurality of funders and idiosyncrasies in the system</li> <li>• There needs to be clarity around the utilisation of any savings</li> <li>• Rather than trying to design a perfect model we should pilot, refine and implement</li> </ul>

## Implications for Australia

The Federal Government's issues paper on the 'Reform of the Federation' presents a number of questions. They include questions on the efficiency, effectiveness and equity of service delivery and fiscal sustainability (Figure 13) as well as others.

How could shared responsibility for health care be better managed to reduce duplication and overlap?

What is the best way to ensure improved coordination of different parts of our health care arrangements?

What are the appropriate incentives for governments to reduce or eliminate cost-shifting?

What is the best way to ensure policy decisions in one area consider the health system as a whole?

How could technical efficiency (achieving more 'outputs' with less 'inputs') of the health sector be improved? How could allocative efficiency (ensuring resources are invested where they are most needed) be improved?

How could changes to roles and responsibilities for health improve outcomes for Indigenous Australians?

Figure 13: Questions on efficiency, effectiveness and equity in service delivery and fiscal sustainability

A separate draft discussion paper suggested a “*better health system would improve incentives for health care providers to focus on prevention and early intervention, assisting people to manage their health effectively. Payments based on improvements in people's health provide clear incentives to reduce costs associated with waste, mistakes and inappropriate care settings. This would include managing chronic conditions before they worsen and require further treatment. More health services would be provided in the community rather than in hospitals*” (49). Specifically, it listed the requirements of the health system (Figure 14) and described five reform options for consideration, drawing on discussions at the stakeholder roundtables and consultation with the States and Territories and the Prime Minister's Expert Advisory Panel:

1. The States and Territories be fully responsible for public hospitals
2. The Commonwealth establishes a hospital benefit
3. The Commonwealth and the States and Territories be jointly responsible for funding individualised care packages for patients with, or at risk of developing, chronic or complex conditions
4. The Commonwealth, States and Territories share responsibility for all health care through Regional Purchasing Agencies
5. The Commonwealth establishes a health purchasing agency

- centred on the patient’s health and well-being;
- that is safe, provides the right care, in the right setting, at the right time, and supports prevention and early intervention;
- where consumers are empowered to manage their health and health risks, and to make health care decisions;
- that is fair and supports disadvantaged and vulnerable people and communities;
- that operates effectively, delivers value for money, and eliminates waste;
- with flexibility for innovation, adaptable to meet local circumstances, and encourages continuous improvements in services;
- anticipates and responds to the needs of an ageing population;
- that measures success and aligns incentives with people’s health and wellbeing; and
- supported by clear roles and responsibilities so the public can hold governments to account.

Figure 14: Requirements of a health system

The context is unique to Australia, but all developed countries around the world are striving for a health system that meets these requirements (Figure 14), at the lowest possible cost. This objective has been encapsulated as achieving ‘value’ in health care, where value is defined “*as the health outcomes achieved per dollar spent*” (50). With respect to primary care, Porter *et al* argues that most primary care practices attempt to meet the disparate needs of heterogeneous patients with a single “*one size fits all*” organisational approach. Instead, he recommends that primary care is deconstructed and then reorganised by firstly identifying groups of patients with similar needs, challenges, and ways to best access care. He recommends that this division is not done by segmenting them into condition-specific groups but instead based on similarities in the types of care needed, which reflect patients’ conditions and the severity of those conditions. He suggested those needs are met by integrated delivery care teams and suggests that “*a payment system designed around time-based bundled payments, or payment for a total package of services for a defined primary care patient subgroup during a specified period of time, is the approach most aligned with value for patients*” (51).

The limited evidence from the utilisation of bundled care payments in primary care from the Netherlands, US and elements of the Diabetes Care Project in Australia provide evidence that a bundled payment approach can improve quality of care and reduce cost. Those studies did not define the populations as suggested by Porter, however, researchers have suggested that a bundled payment system in primary care can act as a bridge from the current fragmented system to a future scenario of a risk-adjusted capitated payment model and the clinical accountability for the continuum of care for a defined population (16). In the evolution of medical homes in the US the payment structures have had to evolve to support the organisational development necessary to become a fully functional

medical home. The author suggests that a ‘multicomponent bundled payment’ offers the flexibility required through the different phases of development towards a medical home(52).

A King’s Fund paper on making integrated care happen states that there is no best way to make it happen, but does also point to the need to pool resources and be innovative in the use of payment mechanisms(12). Others have stated the need for the payment mechanism to be aligned across the system to achieve health goals(15). Designing the most appropriate payment system requires an understanding of the goals and then the right choice or blend of the different payment methods. Prospective elements can be used to incentivise providers to exercise appropriate economy in the supply of care, while retaining a retrospective element can enable payers to incentivise specified interventions and mitigate against risks of patient selection, which may arise if the epidemiological risk falls on the provider. To maximise overall cost-effectiveness at a system level requires complementary management and contracting levers. Pay for performance can be used to incentivise quality. A risk assessment may be conducted to identify probability of any unintended consequences so mitigating strategies can be put in place. This is consistent with recommendations from Canada suggesting that the best remuneration method for physicians depends on the goals of the health care system, and on external contextual factors.(53)

The key lessons articulated in the English NHS experience of payment by results need to be considered in thinking about the next steps in Australia. Although related to hospital funding, the same principles apply in thinking about the role of bundled payments within the primary care in Australia. These are:

- Payment systems cannot do everything
- One size does not fit all
- Payment systems need to be flexible
- Trade-offs between objectives are inevitable
- Data and research for payment systems must be strengthened

The evidence for bundled payments is not complete, but what there is shows benefits for costs and quality and whilst there are risks, there are also strategies for mitigating those risks. There are a number of predisposing conditions or foundations required to support a payment reform such as bundled payments. These are:

1. There is a growing call and will for payment reform. Discussion papers have been circulated by a number of stakeholders including the recent report from the George Institute(3), PHCAG (5) and the Royal Australian College of General Practitioners (RACGP)(54). RACGP’s consultation paper calls for a funding model to support a high performing primary health system and introduces concepts of case mix or ‘complexity loading’.
2. Bundled payments require funds to be pooled from their current custodians. A constant theme relates to the complexity of Commonwealth and State funding and cost shifting. The Coordinated Care Trials demonstrate that pooling of funds is possible in Australia, although there are risks associated with this. The

review of federalism offers a time-limited opportunity to identify who the custodian(s) of those pooled funds should be. The pooling of funds can become an enabler to vertical and horizontal integration by creating “bundles’ or pathways of care across the health system. This provides an opportunity to reduce duplication and overlap, and facilitates improved co-ordination of different parts of the health system. It by definition eliminates cost shifting, as there is only one entity.

3. The recent structural reforms with the formation of Primary Health Networks, aligned with Local Hospital Networks, provides the meso level facilitators for those conversations around pathways of care. Utilising their structures, e.g. Clinical Councils/Senates and Community Advisory Groups, and their engagement processes, they can facilitate the engagement of clinicians and consumers into a co-design process. The evidence has identified engagement as being critical in the implementation of bundled payments. This group can be responsible for determining the numerator in the value equation for the different population groups in their health economy.
4. High quality data systems that can measure the cost of activity are required for the denominator calculations in the value equation. They also are a necessity to measure clinical and patient centred outcomes on the numerator side of the value equation. This is a critical success factor and needs to be addressed with urgency and priority in the Australian health system, if the required granularity of data is to be available for a payment reform.

Once these foundations are in place, the international experience has offered some key lessons and steps in the implementation of bundled payments(48). However, the first step towards any reform is to embed the foundations described above. These foundations are implementation of ‘bundled payments’ and this in turn is a bridge towards a future capitation model in a transition towards a value based primary health care system.

Australia is not unique in its need to consider payment reform of the health care system. Other countries have already embarked on the journey. In Australia, there are a number of reforms on the agenda at a number of levels and a unique opportunity to introduce a transformational payment reform presents itself. The workshop discussions and outputs provided insights for implementation of bundled payments in the Australian context. As others have pointed out, a payment reform alone will not be sufficient to address the multiple challenges of fiscal sustainability, affordability, accessibility and equity, but it is necessary if the questions and issues raised in the ‘Reform of the Federation’ Health Issues paper are to be addressed.

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## Appendix 1: Definitions

Payment method	Definition
<b>Bundle payment</b> (also known as episode-based payment, episode payment, episode-of-care payment, case rate, evidence-based case rate, global bundled payment, global payment, package pricing, or packaged pricing)	A single payment covering multiple elements of a patient’s treatment. It is often for an episode of care, or for a specific condition over a period of time.
<b>Capitation</b>	Lump sum or a fixed regular payment per patient/member of population served by a provider for comprehensive services or particular categories of service regardless of treatment
<b>Fee for Service</b>	Payment for an individual medical service, for example, discrete hospital visits or consultant attendances.
<b>Pay for performance</b>	A financial incentive based on measures of quality. Providers are rewarded for meeting pre-established targets on quality and efficiency. Providers are at risk as payment is dependent on their achievement against targets. This form of payment can be combined with other payment strategies to enhance quality.
<b>Practice Incentive Payment</b>	A practice-based payment for meeting specific, practice targets
<b>Primary Care Activity Level (PCAL)</b>	The expected primary care cost for each patient or population (used in US)
<b>Service Incentive Payment</b>	An additional payment for achieving a goal e.g. completion of a cycle of care for asthma or diabetes.

## Appendix 2: Abbreviations

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Abbreviation	
ACO	Accountable Care Organisations
APRM	Alternative Provider Remuneration Methods
CCT	Coordinated Care Trials
DCP	Diabetes Care Project
EPC	Enhanced Primary Care
FFS	Fee for service
MBS	Medicare Benefits Schedule
NHHRC	National Health and Hospital Reform Commission
PBS	Pharmaceutical Benefits Schedule
PCAL	Primary Care Activity Level
PCMH	Person centred medical home
PIP	Practice Incentive Payment
PPS	Prospective Payment System
PRM	Physician Remuneration Methods
RACGP	Royal Australian College of General Practitioners
SIP	Service Incentive Payments

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## Appendix 3: Method

This discussion paper has been produced in two stages:

1. A review of the literature
2. A workshop to discuss the findings and themes, with a particular focus on the meaning within the Australian context.

The final version will be a synthesis of the findings from the literature review and the workshop.

### Literature Review

A literature search was conducted using PubMed, Cochrane and Google Scholar. The search strategy used for PubMed and Cochrane is detailed in the table below.

Search Engine	Search Strategy
PubMed (796*)	(((((((((bundl*[Title/Abstract]) OR episode[Title/Abstract]) OR prospective payment[Title/Abstract]) OR warranti*[Title/Abstract]) OR global[Title/Abstract]) AND payment[Title/Abstract]) OR fees[Title/Abstract]) OR incentive*[Title/Abstract]) OR reimburse*[Title/Abstract]) OR fees[Title/Abstract]
Cochrane (4)	(bundl*:ti,ab,kw or "prospective":ti,ab,kw or "global":ti,ab,kw or "episode":ti,ab,kw or "warranty":ti,ab,kw (Word variations have been searched)) AND (payment*:ti,ab,kw and incentive* and fees and reimburse* and finance* (Word variations have been searched))
Google Scholar	Each of the combined terms used in the PubMed search strategy was used in the Google Scholar search engine, with limitations as per those within the PubMed search where the search engine has the facility to enable those limits.

Table 6: Search Strategy

\*The following limits were applied

English Language

Studies in last 15 years

Studies from Like Nations

(((((united kingdom[MeSH Terms]) OR australia[MeSH Terms]) OR new zealand[MeSH Terms]) OR canada[MeSH Terms]) OR united states[MeSH Terms]) OR europe[MeSH Terms]

Items with abstracts

Table 7: Limits applied to search strategy

The titles of papers from the literature search were reviewed. The study was included based on the relevance of the title. Where there was uncertainty from the title, the abstract was reviewed. Sixty-one papers from the PubMed search

were selected for a full paper review. Additional papers were identified as follows:

- (i) Use of snowballing techniques
- (ii) Author searches. Where the same author featured in more than one publication identified through the search strategy, then a further search was conducted in the databases using that author's name.
- (iii) A number of policy orientated research organisations have websites that either provide independent reports and publications or host a repository of literatures. The websites of the organisations listed in the table below were perused for appropriate reports and papers.

Organisation Name and Website	Description
<b>RAND Corporation</b> <a href="http://www.rand.org/topics/bundled-payment-for-health-services.html">http://www.rand.org/topics/bundled-payment-for-health-services.html</a> <a href="http://www.rand.org/health/key-topics/paying-for-care.html">http://www.rand.org/health/key-topics/paying-for-care.html</a>	The RAND corporation website has two collections which are relevant to this piece of research. The first collection is a series of papers on bundled payment for health services and the second is on paying for care.
<b>The National Academies Press</b> <a href="http://www.nap.edu">http://www.nap.edu</a>	The National Academies Press (NAP) was created by the National Academy of Sciences to publish the reports of the National Academies of Sciences, Engineering and Medicine, operating under a charter granted by the Congress of the United States.
<b>The King's Fund</b> <a href="http://www.kingsfund.org.uk">http://www.kingsfund.org.uk</a>	The King's Fund is an independent charity working to improve health and health care in England with a vision to make best possible care is available to all. One of the mechanisms it uses to do this is by shaping policy and practice through research and analysis.
<b>Nuffield Trust</b> <a href="http://www.nuffieldtrust.org.uk">http://www.nuffieldtrust.org.uk</a>	The Nuffield Trust is an independent source of evidence-based research and policy analysis for improving health care in the UK.
<b>The Health Foundation</b> <a href="http://www.health.org.uk">http://www.health.org.uk</a>	The Health Foundation is an independent UK charity that conducts research and in-depth policy analysis, run improvement programmes to put ideas into practice in the NHS, support

	and develop leaders and share evidence to encourage wider change.
<b>George Institute</b> <a href="http://www.georgeinstitute.org">http://www.georgeinstitute.org</a>	The George Institute’s mission is to improve the health of millions of people worldwide which includes provision of best evidence to guide critical health decisions, targeting global epidemics and focusing on vulnerable populations.
<b>Grattan Institute</b> <a href="http://grattan.edu.au/home/health/">http://grattan.edu.au/home/health/</a>	The Grattan Institute is an independent think tank offering rigorous and practical Australian public policy thought leadership across seven public policy programs including health.
<b>The Sax Institute</b> <a href="https://www.saxinstitute.org.au">https://www.saxinstitute.org.au</a>	The Sax Institute is an Australian not-for-profit organisation that promotes the use of research evidence in health policy.

Table 8: List of organisations whose websites were perused

A total of one hundred and sixty-five (165) references were reviewed, of which thirty-one (31) were relevant to the research questions this review paper is seeking to answer.

The research questions are:

1. What is the evidence of impact of bundled payments, particularly in primary care?
2. What are the enablers, barriers and lessons for implementation in Australia primary care from the experience of other countries?

NVivo software was used to analyse and synthesise the findings based on these two questions.

## Workshop

The findings from the literature review were circulated to participants of a Forum on Bundled Care Options for Primary Health, held on 16th September 2015 and hosted by AHHA. The agenda workshop is shown below:

9:00	Introduction
9:15	What's working and what isn't ? - Australia's current state
9:25	The Reform Agenda
9:45	The 'value' goal
10:00	Ways of funding health ?
10:10	A patient perspective - exploring a patient journey.
10:20	Morning Break
10:45	Funding streams along a patient journey and exploring the opportunities for alternatives
11:05	Feedback
11:25	What does the evidence on bundled payments tell us?
11:40	Bundled payments in Australia - a balanced exploration
11:55	Feedback
12:15	Summary, Closing Remarks

Key findings from the workshop were presented, including a background presentation on value in health care and the type of funding mechanisms for health care. Participants (Appendix 4: List of Forum Participants (page 51)) were invited to work through a patient case study (Appendix 5: Workshop Case Study) to identify current funding streams for each component of care and which components of that patient's care had the potential to be bundled. Participants were asked to consider bundled payments in Australia using De Bono's Six Thinking Hats as a tool to seek a balanced perspective (of which only four were used).

The Yellow Hat	The Yellow Hat symbolizes brightness and optimism.
The Black Hat	The Black Hat is judgment -- the devil's advocate or why something may not work
The Green Hat	The Green Hat focuses on creativity: the possibilities, alternatives and new ideas.
The Red Hat	The Red Hat signifies feelings, hunches and intuition

The outputs from the forum were recorded and the discussions audiotaped. The audiotape was transcribed and the transcript incorporated into the synthesis of this document and analysed for themes.



## Appendix 4: List of Forum Participants

Aleksandric	Vlad	Capital Health Network
Anderson	Abbe	Brisbane North Primary Health Network
Ball	Jacqui	NSW Ministry of Health
Bates	Paul	Bupa
Beange	Jennifer	Western NSW Primary Health Network
Breadsell	Denise	Queensland Nurses Union
Byron	Jenny	Department of Health
Campbell	Magda	Sydney North Health Network
Coffey	Pauline	Brisbane North Primary Health Network
Cole	Deborah	Dental Health Services Victoria
Croker	Amanda	Amanda Croker Consulting
Davidson	Jill	Shine SA
Dawda	Paresh	
De Angelis	Tracey	Brisbane South PHN formerly Medicare Local
Eales	Sandra	Queensland Nurses Union
Eggert	Marlene	Australian College of Nursing
Feidgeon	Nigel	Merri Community Health Services Limited
Ferrier	Denise	Department of Health & Human Services, Vic
Hale - Robertson	Karen	CheckUP
Hales	Lynelle	Sydney North Health Network
Hassed	Vivienne	Dept of Health - Queensland
Healy	Caz	CoHealth
Hobbs	Aiden	CheckUP
Holden	Libby	Abt JTA
Hosking	Kim	Country SA PHN
James	Simon	Brisbane South PHN
Jones	Cristal	Department of Health
Killion	Susan	Australian Healthcare & Hospitals Association
Kleinhans	Shelley	Brisbane North Primary Health Network
Kmet	Walter	WentWest Limited
Kruys	Edwin	RACGP
Lee	Deb	Adelaide PHN
Leigh	Ben	LaTrobe Community Health Service
Liedvogel	Martin	Capital Health Network
Lyndon	Katie	Exercise & Sports Science Australia
Martland	Susan	
McCallum	Jacqueline	Dental Health Services Victoria
McGowan	Russell	Australian Health Care Reform Alliance
McKeown	Emma	Medtronic Australasia Pty Ltd
Nankervis	Richard	Central Coast NSW Medicare Local
Nix	George	Queensland Health
Panzer	Annette	Catholic Health Australia
Parekh	Sanjoti	Abt JTA

Partel	Krister	Australian Healthcare & Hospitals Association
Reay	Lizz	Wentworth Healthcare Limited
Rohde	Sarah	SA Health
Saberi	Vahid	North Coast Primary Health Network
Schmiede	Annette	Bupa
Schwager	Jane	HNECC PHN
Scown	Paul	Consultant
Stewart	Stephen	Dept of Health - Queensland
Sweenet	Sharon	Abt JTA
Thilo	Ayela	Bupa
Thurecht	Linc	Australian Healthcare & Hospitals Association
Todhunter	Liz	Queensland Nurses Union
Trethowan	Jason	Western Victoria Primary Health Network
Veach	Kate	Queensland Nurses Union
Verhoeven	Alison	Australian Healthcare & Hospitals Association
Vlachoulis	Nick	

## Appendix 5: Workshop Case Study

Participants were presented a case study with the patient's journey mapped out. The case study was of a 60-year-old gentleman called, Wayne. He develops diabetes and is initially treated with diet and exercise in primary care. He also is found to be hypertensive. He eventually requires medication but when his diabetes remains uncontrolled he is referred to an endocrinologist. He receives further lifestyle interventions, but has to be referred to a cardiologist for chest discomfort. He requires intervention for this and cardiac rehabilitation. He during the course of his journey develops mild-moderate depression and his referred for psychological input and also received smoking cessation treatment.

The map of his journey is available for viewing at [http://bit.ly/bp\\_patientjourney](http://bit.ly/bp_patientjourney).

## Appendix 6: Summary list of papers reviewed

The following is a list of papers that were identified in the literature search, reviewed and used in the final draft of the paper.

Reference Number	SUMMARY		COUNTRY
(12)	This paper identifies the different methods of payment in the NHS together with their advantages and disadvantages. It discusses factors that need to be considered in the design of a payment system and the objectives of a reformed payment system for England.	Review	UK
(14)	This editorial concludes that bundled payments will likely be an important feature of the health care system in the future. The author identifies five key areas: <ol style="list-style-type: none"> <li>1. The size of the provider group</li> <li>2. The distribution of payments to providers and the mechanism used for that.</li> <li>3. The management of risk and how it is accounted for.</li> <li>4. The rate at which the payer increases future rates of payment of bundles.</li> <li>5. In bundled payments if incentives are for the provider to receive a proportion of the savings. How any potential savings are distributed will have any impact.</li> </ol>	Editorial	US
(16)	This paper reports the experience from the Netherlands of introducing a bundle payment system for diabetes care, vascular risk management and chronic obstructive pulmonary disease. The insurers pays a single fee covering all primary care elements of the specified conditions to a 'care group', which is the principal contracting entity. The care group consists of multiple health care providers (and often owned by General Practitioners). By way of background the authors describe three weakness of the Dutch system: <ul style="list-style-type: none"> <li>• Primary care has been provided in small practices without the capability to deliver comprehensive care required for those with chronic diseases</li> <li>• A fragmented funding formula paying GPs using a blend of capitation and FFS and allied health with FFS.</li> <li>• The division between generalist and specialist care impedes integrated care, with the problem being compounded by the different payment mechanisms.</li> </ul>		Netherlands

The insurer negotiates the bundle payment level with the care group. The care group can choose to provide the service or subcontract to other providers e.g. GPs, allied health. In the latter case the care group would negotiate payments with the providers. The services included in the bundle had been set nationally in disease specific health care standards.

The positive consequences were better collaboration, better process quality (adherence to protocols), and more transparency. The effects of implementing bundled payment on patient outcomes such as blood sugar levels and costs were unknown.

The negative consequences were dominance of the care groups by general practitioners, large price variations that were only partially explained by differences in the provision of care, and an administrative burden.

The insurers perceived the bundled payment as a black box, not knowing what was happening at the patient level. One of the insurers expressed concerns about the lack of clarity and did not know what services were being paid for, and hence had concerns about double dipping. The authors point to other research showing large variations among care groups with regard to price as well as to reported performance information. They expressed concerns about additional administration in the contracts between them and care groups and concerns about the lack of competition.

The care groups reported perspectives were generally positive and in particular the ability to influence care process, to supply health care providers with feedback about their performance relative to the average care group performance and to give insurers information about performance. They were concerned about the administration and the dominant position of the insurers. They experienced challenges in assigning correct payments to providers particular when the patient had multi morbidity, and the lack of their ability to shift savings from specialty care to reinvest in primary care.

The subcontractor perspective was positive with recognition that it improved coordination of care. However, they had concerns about the dominant position of the care groups and their ability to remodel the care to be provided by different providers. There were concerns about conflicts of interest with high levels of care group ownership amongst GPs. GPs also raised concerns about fragmentation with disease based funding.

Further implementation of bundled payments for other chronic diseases were being considered in the Netherlands. However, this would make the problem of how to deal with patients with multiple diseases even more complex. The authors speculated that the introduction of bundled payment might turn out to be a useful step in the direction of risk adjusted integrated capitation payment for multidisciplinary provider groups offering primary and specialist care for a defined group of patients.

<b>(17)</b>	<p>The authors' objective was to evaluate the applicability of clinical practice guidelines to the care of older individuals with several co-morbid diseases and highlight implications of pay for performance. The review suggested that basing standards for quality of care and pay for performance on existing clinical practice guidelines for the population studies may lead to inappropriate judgment of the care provided to older individuals with complex co-morbidities. This may potentially create a perverse incentives leading to the wrong aspects of care for this population and diminish the quality of their care.</p>	Review	N/A
<b>(18)</b>	<p>This paper presents a framework for payment of primary care practices replacing encounter-based reimbursement with a comprehensive payment for comprehensive care.</p> <p>The model suggests additional investment for additional responsibilities. Payments are directed to practices to include support for the modern systems and teams essential to the delivery of comprehensive, coordinated care. The payment is needs/risk-adjusted and performance-based to ensure optimal allocation of resources and reward desired outcomes. It recommends pilots of the model.</p>	Discussion	US
<b>(19)</b>	<p>The author makes the case for a RiskBased Comprehensive Payment (RBCP) model for PCMH. It is partially capitated, in that the PCMH receives a bundled global payment intended to cover primary care services only; non-primary care services continue to be separately reimbursed.</p> <p>They argue for three payments:</p> <ul style="list-style-type: none"> <li>• Base payment</li> <li>• Bonus incentive payment</li> <li>• Transformation support payment</li> </ul> <p>The base payment is risk adjusted to cover the Primary Care Activity Level. The bonus payment is also risk adjusted.</p>	Discussion	US
<b>(20)</b>	<p>A paper describing the development and evaluation of a risk-adjusted Primary Care Activity Level base payment and performance measures using empirical criteria to estimate essentially all the resources needed for care and to determine what constitutes good performance.</p> <p>Calculating a bundled payment for only a particularly relevant subset of spending for primary care, this paper suggest avoids the problem of full capitation imposing unreasonable financial risk on typical primary care practices. The modelling was designed to support replacing fee for service payments in a medical home entirely with bundled care-coordination payments and large bonuses. The modelling was done on claims-based data on 17.4 million commercially insured lives to model bundled payment to support expected primary care activity levels and 9 patient outcomes for performance assessment.</p>	Risk based	US

The authors found that the predicted and apparent costs of providing comprehensive primary care vary more than 100-fold across patients and showed that sophisticated risk adjustment is required to adequately distinguish across such huge differences.

They demonstrated the utility of claims-based risk adjustment across diverse provider specialties, health plan types, payers, age, sex, and various outcomes and in distinct datasets.

The authors strongly recommend that any measure should be risk adjusted unless it is shown that patient factors cannot predict it.

The authors concluded that existing data can support the risk-adjusted bundled payment calculations and performance assessments need to encourage desired transformations in primary care.

(21)

This paper provides an analysis and recommendations on hospital based bundled payment models designed to bundle pre, inpatient, and post care. It identifies advantages and disadvantages:

US

Advantages:

- Payment bundling has the potential to reduce costs without compromising outcomes
- The entity has to provide the service delivery costs e.g. coordination, medication reconciliation It received the cost net of the treatment cost and so can in effect commission the most cost effective provider

Disadvantages:

- Incentives to skimp on care are inherent in any fixed-episode payment system because there is no payment for additional services
- Increase in financial risk (but this can be mitigated against)
  - Insurance against outliers
  - Gain or loss sharing
  - Combining with pay for performance
- Limitation in choice of provider (if the entity being paid the bundled payment is commissioning services from its providers than it's likely to limit the number and this may limit the choice)

Implementation challenges:

- Choosing conditions: The authors suggest two key considerations.
  - Financial risk
  - Potential to reduce cost with compromising outcomes
- Length of an episode of care

<b>(24)</b>	<p>This is an evaluation report of Diabetes Care Project (DCP), a randomised cluster-controlled trial with a usual care group and two other groups:</p> <p>Group 1: an integrated information platform and continuous quality improvement processes within the current funding model.</p> <p>Group 2: As for group 1 + flexible funding based on risk stratification + payments for quality + funding for care facilitation.</p> <p>Findings: The study showed that those practices within Group 2 had:</p> <ul style="list-style-type: none"> <li>• Improved the quality of diabetes care as measured by intermediate clinical indicators, adherence to recommended clinical processes and patient satisfaction. The latter included patient perceptions of continuity of care.</li> <li>• Were able to be more innovative and patient-centred in the way they delivered care</li> <li>• No statistically significant changes in affordability</li> </ul> <p>The improvements in quality, particularly of information recording and intermediate clinical indicators were attributed to the pay for performance component.</p> <p>The evaluation concluded that a wider rollout of the funding mechanism for Group 2 interventions would not be cost effective.</p>	Research Paper	Australia
<b>(25)</b>	<p>This paper reported on the CCT in Australia conducted by SA HealthPlus. The summary of the paper reports the following four items:</p> <ul style="list-style-type: none"> <li>• Barriers to coordinated care for chronic illness in Australia include multiple sources of funding, and general practice that focuses on acute care, with doctors working individually, not in teams</li> <li>• Definitions of managed care, coordinated care, and disease management models have not been agreed</li> <li>• SA HealthPlus successfully implemented a generic model of coordinated care with improved health outcomes but savings that were not sufficient to pay for all coordination costs</li> <li>• Self-management capacity is a necessary component of assessment in determining allocation to coordinated care for chronic conditions</li> </ul>	Research Paper	Australia
<b>(30)</b>	<p>This technology assessment was a comprehensive review of the effects of bundled payments on spending and quality.</p>	Technology Assessment/ Review	US



The assessment search identified international and US papers, however, none of the papers included in the final review incorporated primary care. The only one paper that did was excluded because full evaluation results were not available.

The assessment concluded that the introduction of bundled payment was associated with (1) reductions in health care spending and utilisation, and (2) inconsistent and generally small effects on quality measures.

These findings were across all the variations of bundled payment programs identified by the review, but the authors rated the quality of evidence as low due mainly to concerns about bias and residual confounding.

They identified a number of caveats for consideration by policymakers:

1. Future bundled payment programs will be different to those reviewed in this study (80% of the bundled payment interventions studied were limited to payments to single institutional providers (e.g., hospitals, skilled nursing facilities). This limited the ability to extrapolate to newer programs that include multiple providers)
2. They note that bundled payment have the potential to either adversely affect quality or be used as part of a quality improvement strategy. Hence future bundled payment programs need to have an integral and robust quality monitoring and improvement component.
3. The quality of evaluation was low and that further policy change should be subject to rigours evaluation.

<b>(31)</b>	PROMETHEUS was designed to pay for all of the care required to treat a defined clinical episode, particularly those services recommended by clinical guidelines or experts. It defined 21 medical conditions to be included including chronic diseases such as diabetes. The sites experienced significant implementation challenges. Despite the challenges some intermediate benefits were observed. These include participants finding it valuable to use a measurement tool, initiation of new care coordination activities and improved communication amongst stakeholder.	Review	US
<b>(32)</b>	This was a paper from the RAND Institute that reviewed the success of value based purchasing programs. In the review the authors had identified three papers in relation to bundled payments. They had applied inclusion criteria that limited them to an examination of bundled payment arrangements to those that included both cost and quality performance components to assess value. The setting of the three studies included Hospital/physicians/post-acute care. They found:	Review	US

	<ol style="list-style-type: none"> <li>1. Clinical quality: Only one of the three studies examined the effect of bundled payments on process measures. The study found that adherence on 40 clinical process measures increased. However, this was in a single integrated organisation and so the transferability to other settings may not be possible.</li> <li>2. Cost: Two studies measured this and both found a cost reduction. One was of the order of 5 percent whilst the other found a \$USD2000 reduction in the cost per case over the two-year period.</li> <li>3. Unintended consequences: There were none identified. However, the expert panel overseeing the review recommended monitoring of potential unintended consequences. These potentially include the loss of revenue for providers caring for disadvantaged populations, the excessive exclusion of patients when that is an option in the program, access barriers and patient turnover from practices related to providers avoiding more difficult patients, and market concentration and price effects in the context of Accountable Care Organisations.</li> </ol>		
<b>(33)</b>	<p>This paper discussed the implications of the Netherlands experience in the US contexts identifying five key lessons:</p> <ul style="list-style-type: none"> <li>• Reimbursement of care groups varied widely <ul style="list-style-type: none"> <li>- Partially explained by variation in actual differences in care provided</li> <li>- Partially explained by inexperience of care providers and payers in bundled payment design</li> <li>- Partially explained by varying interpretation of national standards</li> </ul> </li> <li>• Unanimous reporting of improvement in care processes</li> <li>• Improvement in transparency of care (but requires ongoing information in technology as an enabler)</li> <li>• Too early to conclude on quality or cost <ul style="list-style-type: none"> <li>- No improvement in intermediate outcome measures e.g. HbA1c but high starting point</li> </ul> </li> <li>• Care groups in a powerful position and with a preferred provider network limited choice for patients.</li> </ul>	Discussion paper	Netherlands
<b>(34)</b>	<p>This paper reviewed the Dutch experience with bundle payments in chronic care. The full paper could not be sourced, however, given the relevance of the Dutch experience to this project the abstract was maintained in the literature search. It report small but largely variable effect on quality of care of patients with diabetes. This included lower proportion of patients treated in hospital, but with no corresponding decrease in hospital costs, however there was an additional investment cost for primary care. The transparency system did not function well, with lack of steering on double payments, and a concerns about the monopolistic position of care groups. Patients were unaware of their involvement and very little difference was observed in individual care plans. The authors concluded that it was too early for a final assessment but commented care groups needed to fulfil higher requirements with respect to preconditions and patient involvement.</p>	Research paper	Netherlands
<b>(35)</b>	<p>This study evaluated quality of care for diabetes patients with and without co-morbidity enrolled in diabetes disease management programmes provided by care groups. They found no differences in quality of care in diabetic patients with or without co-morbidities.</p>	Research paper	Netherlands

<b>(36)</b>	<p>This paper presented the perspective of dietician in the Netherlands bundled care experience of patients with diabetes.</p> <p>The findings showed the advantages and disadvantages:</p> <p>Advantages:</p> <ul style="list-style-type: none"> <li>• increase in multidisciplinary collaboration (65%)</li> <li>• more efficiency in primary health care (41%) and</li> <li>• greater transparency of health care quality (24%)</li> </ul> <p>Disadvantages:</p> <ul style="list-style-type: none"> <li>• increase in administrative tasks (60%)</li> <li>• lack of payment for patients with co- or multi-morbidity (41%), and</li> <li>• that dietetic care was substituted by other disciplines (32%)</li> </ul>	Research paper	Netherlands
<b>(37)</b>	<p>This survey reports findings from research on physicians' attitude to alternative payment models including bundled payments. Interviewees reported:</p> <ul style="list-style-type: none"> <li>• change in organisation structure through merger with other practices or bigger organisations to enable them to respond to the structural changes required from different payment models e.g. Investment in information technology</li> <li>• encouraged the development of team approaches to care management, featuring prominent roles for allied health professionals</li> <li>• a serious tension could also arise when practices participated in a mix of both FFS and risk-based contracts resulting in conflicting incentives—to increase volume under the FFS contract while reducing costs under the risk-based contract</li> <li>• Expanded options for patient access</li> <li>• Investment in data management capabilities</li> <li>• negligible effects on the aggregate income of individual physicians</li> <li>• Those particularly in non-leadership positions perceived the changes with less enthusiasm. They experience great non-clinical work and felt pressure to practice at the top of their licence.</li> </ul> <p>The authors recommended that:</p> <ul style="list-style-type: none"> <li>• Practices need support and guidance</li> <li>• Addressing concerns about operational details could improve their effectiveness</li> <li>• Practices need data and resource to manage and analyse that data</li> <li>• Aligning key aspect of different payment models would allow practices to respond constructively</li> </ul>	Research	US

<b>(38)</b>	<p>The authors reviewed the impact of bundled care for cardiovascular services (mostly specialist services). They conclude bundled payment initiatives thus far have demonstrated modest potential to curb health care costs without decreasing health care quality and potentially even improving it. They cite the recurring theme around challenges in program implementation.</p>	US	
<b>(39)</b>	<p>This paper reports an empirical analysis of hospitals in Italy and concludes that those in regions where PPS are used more widely correlate with higher quality of care.</p>	Research paper	Italy
<b>(40)</b>	<p>This paper from the Nuffield Trust provides a snapshot of policy focus in Europe to reform payment systems for health in order to improve efficiency and quality.</p> <p>Payment by case-mix adjusted bundle payments is well established in hospital care. It has had impact with increasing activity and reducing length of stay but not for co-ordination of care beyond hospital settings or control of overall cost. The payment mechanism is being combined with pay for performance or caps are being introduced limit total costs.</p> <p>The payment system for doctors outside of hospitals is a blend of fee for service and capitation. The authors comment on findings from other research that an over reliance on fee for service is likely to increase activity or that capitation will reduce efficiency. They suggest the need for a balanced blend of payment systems.</p> <p>They comment on the health system striving to achieve better value and the development of episode-based payment to cover a pathway of care for patients (together with a pay for performance element) being a promising element towards value-based contracting. However, they note that such payment systems can only develop if there is good quality data on activity, cost and outcomes: in most countries in Europe such data are weakest for some of the ambulatory and primary care based interventions, which are key components of the effective management of patients with chronic disease. To achieve greater value in health care requires dealing with a complex interaction of a number of factors: professional and public culture, regulatory systems, legislation and governance.</p> <p>They note that while payment mechanisms can help to overcome some of these challenges, they are only a part of wider change needed. Establishing DRG-style case-mix groupings for ambulatory and primary care-based interventions would be an important next step, as would the development of a robust set of measures of outcomes, and greater challenge of variations.</p>	Research Report	Europe

<b>(42)</b>	This paper researched whether bundled payments for heart failure for patients hospitalised reduced readmissions. The found that proposed bundled payments would provide a sufficient incentive to implement disease management programs that would reduce the risk of readmission and hence improve quality and cost.	Research	US
<b>(43)</b>	<p>A paper on payment by results in the English NHS. It identifies some key lessons regarding payment system. These key lessons include:</p> <ul style="list-style-type: none"> <li>• Payment systems cannot do everything</li> <li>• One size does not fit all</li> <li>• Payment systems need to be flexible</li> <li>• Trade-offs between objectives are inevitable</li> <li>• Data and research for payment systems must be strengthened</li> </ul> <p>The paper also reviewed the international experience of paying for health care. It notes that many countries are dissatisfied with the limitations of activity-based payments for patients with long term conditions and complex ongoing needs. It cites the following examples of bundled care initiatives:</p> <ol style="list-style-type: none"> <li>1. Netherlands - a large-scale initiative to contract doctor led groups for a year of care for selected chronic conditions.</li> <li>2. US - pilots of bundled care payments on ‘episode treatment groups’ that bundle physician, acute hospital, post-acute and ambulatory care costs from referral or admission to recovery for an extended episode of care.</li> <li>3. Sweden - piloting of extended episode payment for joint replacement, combined with patient choice and provider competition.</li> </ol> <p>They express the exercise of caution as defining episodes of care, and payment rates, and distribution of incentives across providers is challenging.</p> <p>The paper conducts a critical analysis of the application of bundled payments to the English NHS and concludes:</p> <ol style="list-style-type: none"> <li>1. It is uncertain about its place in the NHS which has a different context</li> <li>2. The structure of commissioning primary care and acute is care is divided which would make it difficult to translate</li> </ol> <p>They comment that bundled payments have stimulated better co-ordination, improved the quality of data, improved clinical engagement, and relationships between payers and providers.</p>	Review	UK
<b>(44)</b>	This study undertook financial modelling to understand the impact on insurers, delivery systems and providers of introduced a heart failure management service. The findings demonstrated that there would	Research paper	US

	be a benefit for insurers, and that monies would shift to different components of the system, resulting in greater loss to one component with gains in other components. Overall, it showed net loss to the delivery/provider side. It provides indirect evidence to illustrate the complexity of costing a service or bundle of care.		
(45)	This paper presented the author's exercise in linking existing data sets in Ontario to explore the feasibility of implementing bundled payments in that system. The author demonstrated it was possible for hip and knee replacements but implementation issues are significant.	Research and discussion paper	Canada
(47)	The paper presented a successful process to co-design a bundled payment approach between orthopaedic providers and payers in US. They defined process steps as: <ul style="list-style-type: none"> <li>• Defining the bundle</li> <li>• Selecting the patient population including taking into account risk adjustment based on case mix</li> <li>• Specifying evidence based outcomes and guarantees</li> <li>• Ensuring patient engagement</li> <li>• Estimating costs</li> <li>• Setting the price</li> </ul> The output from this case study description has yet to be implemented.	Case Study	US
(53)	The article argues that the optimal choice of PRM depends on the goals of the health care system, and on external contextual factors. Fee for service payments are best when the goals are quantity of care and risk acceptance. Capitation is best when the goals are collaboration between providers and delivery of preventive services and health promotion. Salaries are best when population density is low, and the goal is to recruit physicians to rural and remote areas. Blended payment models are recommended for the achievement of multiple goals.		Canada
(55)	The authors of this paper conducted an analysis to estimate cost savings for episodes of care that were bundled. They looked at an elderly population across 306 hospital referral regions and a total of 245 different types of episodes. They compared estimated cost saving with episode-based to patient-based bundled payments (capitation). The conclusion was that it is possible to achieve very substantial health care savings by moving from a fee for service model to bundled payments for episodes of care, whether in a stand-alone program or as a component of an overall global-payment model.	Research	US

<b>(56)</b>	<p>This survey of 153 intermediary entities in California traced the cascade of financial incentives from health plans through physician organizations to primary care physicians. Although the physician organizations received the vast majority (84 percent) of their revenues through capitation contracts, most of the financial risk related to utilisation and costs was retained at the group level. Capitation of primary care physicians was common in independent practice associations (IPAs), but payments typically were restricted to primary care services. Thirteen percent of medical groups and 19 percent of IPAs provided bonuses or withholds based on utilization or cost performance, which averaged 10 percent of base compensation. With a single exception, all respondents indicated that individual physicians rather than subgroups or “risk pools” were the basis of bonus or withhold calculations. Depending on the way physician organisations predominantly paid primary care providers an average of 9-21 percent.</p>		US
<b>(57)</b>	<p>The authors review the history of bundled payments, the current demonstration sites, and the opinions of those radiologists involved and attempt to outline a plan for hospital-based practices to prepare for this possible scenario.</p>	Discussion Paper	US
<b>(58)</b>	<p>This paper reported on qualitative interviews from 27 stakeholders in the Canadian Health System on reasons for, expectations of, as well as achievement of APRM for family doctors in Canada. The main reasons identified included:</p> <ul style="list-style-type: none"> <li>• Recruitment and retention in rural and remote areas</li> <li>• Desire to increase collaboration, care continuity, prevention and health promotion.</li> </ul> <p>Blended payments were described as having a positive effect on the collaboration, care continuity, prevention and health promotion. A salaried structure helped recruitment and retention but raised concerns about reduced physician productivity.</p>	Research	Canada



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