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A roadmap towards scalable value-based payments in Australian healthcare

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Key Messages

Australian healthcare funding policy needs a rethink. Over the last decade, governments have sought to give primary health networks (PHNs) and local health networks (LHNs) greater local planning and commissioning roles. Policy direction suggests PHNs and LHNs will also be tasked with developing outcomes-based funding models, premised on the suggestion that local level planning will deliver better outcomes.

Developing a value-based payment model is complex. PHNs and LHNs require the necessary skills and experience, policy levers, supporting infrastructure and workforce to appropriately implement a value-based payment model. Such a decentralised approach is unlikely to be efficient. Implementing a value-based payment model in isolation will lead to duplication and missed opportunities to share learnings and iteratively improve value-based payment models.

The likelihood of developing a program of successful value-based payment models will be substantially greater if state, territory and federal governments develop a structured and supportive policy and institutional framework around the intent to trial and evaluate ongoing value-based payment models nationally. Four recommendations are made to establish this framework.

Australian healthcare policy has focused mostly on reorganising models of care. State, territory and federal governments have neglected to harness financial incentives to improve value. This has been, in part, a response to the unease many providers feel

towards having their revenue streams reorganised, taking on increased financial risk, and experiencing increased costs as business and care models realign.

It is natural for providers to pushback on value-based payments if the incentive structure fails to compensate for increased risk, fails to cover the marginal cost associated with meeting incentive targets, or fails to attribute health outcomes to care.

Value-based payments are a necessary step towards securing Australia's healthcare system sustainability. Their purpose aligns with other important healthcare system policies to improve health outcomes and reduce waste. However, using financial incentives to change behaviour requires national leadership, substantial investment in better information technology, and improved data collection and sharing to inform and support measurable and attributable care outcomes agreed across patients, providers and funders.

The value-based payment reform journey will be long, and it will experience some failures. Resolute testing of innovative funding models within a strong learning ecosystem will help government build funding models that complement future healthcare needs and preferences of patients. Who bears the risk and who benefits must be transparent and factored into implementation to predict for uncertainties.

Recommendations

Recommendation 1

Develop a cohesive national vision and ambitious national 10-year plan for value-based payment integration into the Australian healthcare system.

Recommendation 2

Create an independent national payment authority to implement the national plan through strong relationships with relevant federal government agencies and with state and territory governments.

Recommendation 3

Improve cost and outcome data collection, analysis and access among government and providers, aiming for seamless, low cost collection and effective flow of information.

Recommendation 4

Support provider education, training and innovation by identifying and promoting best practice care, developing provider assistance tools and training packages, and promoting peer-to-peer learning.

Executive Summary

Financial pressure on the Australian Government budget is at a historical high, resulting from increased debt and worsening economic conditions. This pressure has permeated through government portfolios, including health and aged care, where forward estimates within the latest Australian Government Budget suggest real expenditure per person will decline by around six per cent over the next four years.

At the same time, there is substantial waste in the Australian healthcare system. The Australian Commission on Safety and Quality in Healthcare (ACQSHC) found over 330,000 potentially preventable hospitalisations in 2017-18, with massive variations in rates across Australian regions. The landmark Australia Care Track study found only 57 per cent of adult healthcare across 22 conditions aligned with best practice or guidelines.

Budget pressure and healthcare system waste are inconsistent with a sustainable healthcare system. There is an urgent need for state, territory and federal governments to promote value by improving health outcomes that matter to patients and reducing waste. The Addendum to the National Health Reform Agreement (2020-25) is the first step, with governments agreeing to reorganise their funding structures to pay for value and outcomes. However, implementation has been embryonic, stalled by a shift in resources to respond to the COVID-19 pandemic.

Value-based payment models are a collection of model types that seek to extrinsically motivate providers and clinicians using

financial incentives to deliver best practice care and reduce costs. Examples include pay-for-performance, capitation, bundled payments and accountable care organisations. Australia has dabbled with value-based payments, such as pay-for-performance and capitation, without much success.

Value-based payments are being pursued in healthcare systems around the world. None more so than in the US where the government has allocated US\$20 billion to the Center for Medicare and Medicaid Services Innovation (CMMI) to innovate, develop, implement, and evaluate alternative payment models to fee-for-service. While success has been limited, trials have given the CMMI a large evidence based upon which it will draw for the next decade. The CMMI plans to have all Medicare funded patients in a care relationship funded by a value-based payment by 2030.

Value-based payments shift financial risk from payer to provider. Other risks may also increase for providers, such as strategic risk, operational risk and clinical risk, as providers change their business and care models. Yet there are potential benefits to providers from participating in value-based payments. Providers can capture greater market share by delivering better quality, or participate in financial rewards from reducing costs. Positive externalities, such as improved information technology and better use of data can also prevail over current practices.

Many providers may struggle to assess whether a value-based payment model is suitable. Activity and cost data may not be

readily available, and projecting patient healthcare needs and associated costs can be challenging. Patient characteristics and behaviours outside the control of providers will likely impact health outcomes. Some providers may be naïve and participate in a value-based payment model only to discover their patient cohort is less healthy, or outcomes are harder to achieve, than first anticipated.

Providers will also face substantial upfront costs. These will come from investing in new relationships, better information technology and data analysis skills, new models of care and new governance and risk management practices. Understanding the distribution of costs across a care pathway may be challenging, as current cost accounting methods do not break down costs by condition. While time driven activity based costing has been suggested to better estimate care pathway costs, its applicability to value-based payment models is not yet demonstrated.

A value-based payment model will only work if health outcomes that matter to patients are accurately measured and can be attributed to provider care. For many conditions, especially

chronic disease, this will require high quality data on healthcare service use and other factors that impact health outcomes, such as health status, health related behaviours, other types of care received (e.g., formal aged care services) and living environment, such as social supports, socioeconomic status and economic climate. Measurement error, endemic in most outcome measures, will also make outcome metrics noisy, reducing provider trust in outcome metric and ultimately the value-based payment model.

Embedding value-based payment models into the Australian healthcare system must travel down a digital road, while maintaining clinical safety and promoting health equity. Implementation must be structured and systematic. Funding models must be adapted to their local context and supported by a strong evaluation and learning culture.

Value-based payment models will touch every part of the healthcare system. Broad, ongoing consultation with stakeholders is therefore needed. This must come from a genuine understanding by providers, clinicians and patients that current healthcare funding models do not align with modern healthcare needs.

The need for funding reform

Every year the Australian healthcare system improves the health and lengthens the lives of many Australians. (1) Yet waste is endemic within the system, characterised by low value services and potentially avoidable healthcare use. This has prompted state and territory governments, in collaboration with the Australian Government, to establish a reform pathway that generates greater value from their spending. Reform will primarily include more integrated care to reduce system fragmentation and incentivising providers to produce better care quality through paying for outcomes.

The proposed Australian healthcare reform pathway follows other countries. The United States (US) is relying on value-based payments to arrest its expenditure growth, while the United Kingdom (UK) is focused on integrating publicly funded health and social care. In Australia, value will be limited unless care integration is accompanied by funding integration. Shifting to scalable value-based payments will require the Australian Government, in collaboration with state and territory governments, to develop and lead a

long term vision and strategy for piloting, evaluating and implementing funding reform.

Funding reform will be politically challenging and expensive. Healthcare provider business models, embedded from nearly 40 years of unchanged Medicare payment structures, will likely be upended. Reform will require a substantial upfront investment. Value-based payment models cannot operate without better information technology and data support. Reform success will not be linear, with some failures along the way. Payers must learn how to structure incentives and providers must learn how to manage increased financial risk and effectively change service delivery models.

As challenging as funding reform will be, the status quo is unsustainable. Only a value-based payment system can support a contemporary healthcare system working towards better meeting ageing population needs, (2) within an ever tightening budget constraint.

Pressure on healthcare budgets

Australia's healthcare system was ranked third among 11 high-income countries, behind Norway and the Netherlands, in 2021.(3) While Australia was ranked first for Equity and Health Outcomes, it underperformed in Access to Care, reflecting high out-of-pocket expenses, relatively long waits for medical appointments and accessing urgent care after

hours, and delays in receiving information from medical practitioners.(3)

Australia's total healthcare expenditure was \$202.5 billion in 2019-20, which grew by an average annual real rate of 3.4 per cent over the last decade.(4) Governments were responsible for 70 per cent of total spending, but out-of-pocket expenses comprised \$29.8

billion, accounting for 14.7 per cent. Most out-of-pocket expenditure is for prescription and non-prescription medicines, followed by dental services.(5) There is concern among policy makers, providers and academia that the Australian healthcare system is not sustainable. Debate often refers to reduced long term prospects for delivering healthcare to meet patient needs and preferences due to budget constraints. The Australian Budget is projected go further into debt until 2060-61, led mainly by increased healthcare expenditure. As in the last 40 years, healthcare expenditure is projected to grow faster than GDP.(6) The three health portfolio areas with the greatest projected growth are Medicare Benefits Schedule (MBS) funding, public hospitals and the pharmaceutical benefits scheme (PBS). Population ageing (and associated chronic disease) and adoption of better, but more expensive, healthcare technology will be mostly responsible.(6)

The need to arrest healthcare expenditure growth is more immediate than the sustainability debate proposes. Many Australians already struggle to afford healthcare and medicine.(5) Forward estimates from the 2022-23 Australian Government Budget suggest real healthcare expenditure may need to be reduced as the budget repairs (Figure 1) and the low inflation, low interest environment disappears.

Historically, the Australian Government has not reallocated funding from other portfolios to meet healthcare challenges (Figure 2). A reduction in real healthcare expenditure and further increases in out-of-pocket costs means the healthcare system must become more efficient in delivering care to avoid reduced access and reduced care quality, and to ensure patients continue to receive access to new cost effective health technologies.

Figure 1: Annual change in health portfolio expenditure. (ref 8)

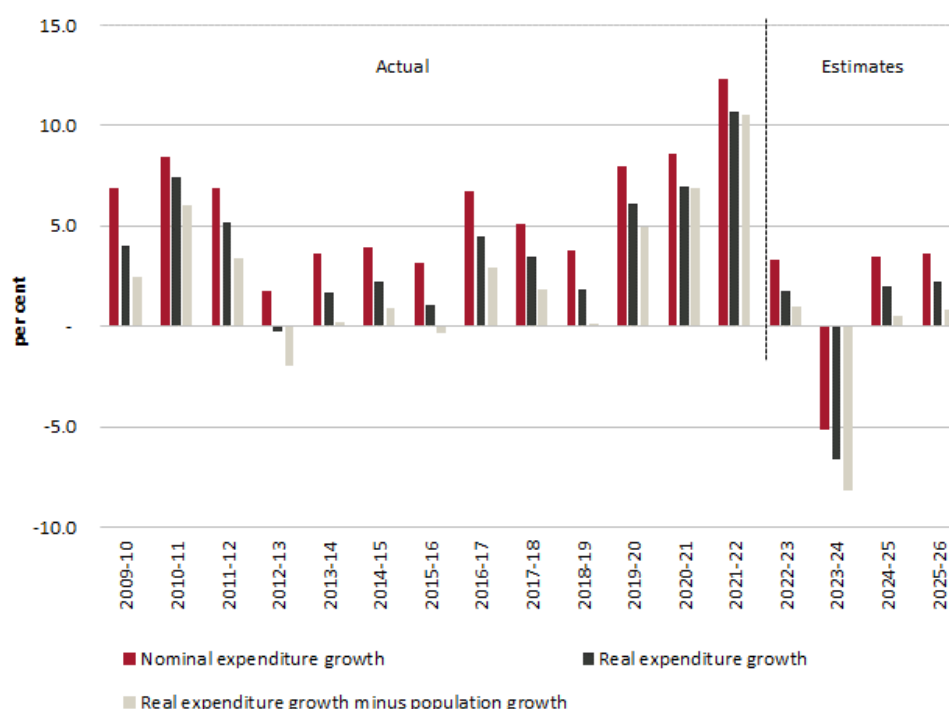
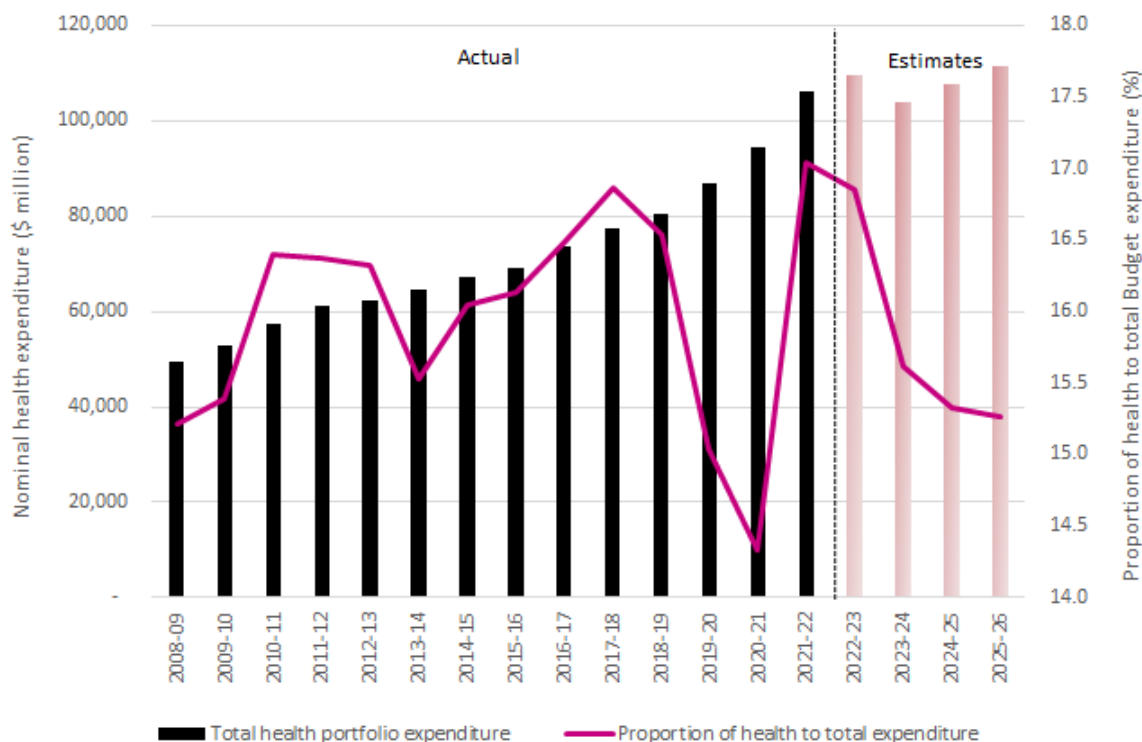


Figure 2: Actual and estimated nominal health portfolio expenditure. (ref 8)



Waste in the Australian healthcare system

Healthcare spending is valuable when healthcare service benefits are greater than their costs, although spending cannot outgrow income indefinitely, (7) and other services compete for government funds, such as education and social security. This value proposition is explicitly pursued in countries such as Australia, England, and Canada, which systematically use economic evaluation to estimate the value of paying for new medicines and health technologies.

However, there is significant waste within healthcare systems. The United States (US) wastes between 21-47 per cent of national health expenditure each year.(9) Other estimates suggest only 60 per cent of healthcare is delivered in-line with guidelines,

while 30 per cent is waste, duplication or of low value. The final 10 per cent is care that leads to harm.(10) Most waste is from medical services and technology overuse.(11) Concern regarding waste extends to other OECD countries too, where governance and administrative waste is problematic.(12)

The Australian healthcare system is no exception to waste. The Australian Commission on Safety and Quality in Healthcare (ACSQHC) found over 330,000 potentially preventable hospitalisations in 2017-18, along with substantial unwarranted variation in various types of care across Australia.(13) This high cost care may have been avoided if alternative low cost care were accessed in the community. The Commission

highlighted that fragmented funding between hospital and general practice is restricting the integration of care, and has started working with the Independent Health and Aged Care Pricing Authority (IHACPA) to design funding models that can reduce potentially preventable hospitalisations.(13) The landmark Australian Care Track study also identified

healthcare waste. The proportion of healthcare encounters where appropriate care was received by adults in Australia ranged from 13 per cent (alcohol dependence services) to 90 per cent (coronary artery disease), with an average of 57 per cent across 22 conditions.(14)

The Value-based Health Care movement

Continued healthcare expenditure growth, healthcare system waste, and potential health outcome and cost benefits from better integrated care means payers want to shift a healthcare sector driven by provider preferences and volume, to a healthcare sector driven by patient outcomes and experience. Seminal work conducted by Porter and Teisberg set the value agenda in 2006 to improve quality and better manage price and volume through greater competition.(15) They characterised a value-based healthcare system as one that delivers outcomes that matter to patients by:

- integrating care around medical conditions;
- measuring all outcomes and costs;
- delivering funding through bundled payments;
- integrating multi-site care delivery systems;
- expanding geographic reach of Centres for Excellence; and
- supporting an enabling information technology platform.(16-18)

Healthcare systems have since sought to improve value using patient-reported outcomes and experience measures, sought to reduce variation in patient outcomes, and sought to remove low value care. Examples

include the international adoption of standardised outcome measures developed by the International Consortium for Health Outcomes (ICHOM) and the Choosing Wisely campaign.(19) Several healthcare systems have introduced value-based health care (VBHC) programs at a local level, or around a specific condition. Examples include bundled payment systems for knee replacements in Sweden (20, 21) coordinating care to keep people with chronic conditions healthy and out of hospital in the US,(22) and investing in better information technology to support less costly models of care in the US.(23)

Governments are also exploring funding models that reward better health outcomes. The US is leading this work to address their own unique circumstances. It spent 16.8 per cent of GDP on healthcare in 2019, but had the lowest average performance among 11 high-income countries.(3) While the US scored highly for Care Process, it had the worst score for Access to Care, Administrative Efficiency, Equity and Health Care Outcomes. In 2010 the Centre for Medicare and Medicaid Innovation (CMMI) was established to implement and study new payment and care delivery models. The purpose was to reduce healthcare expenditure growth and improve outcomes,

which addresses some components of poor healthcare system performance but excludes other components, such as equity.(24) A value-based healthcare movement had developed in the decade prior, as the US government sought to reduce federal government costs, and push healthcare providers to use electronic health record information to improve care coordination, population health management and consumer engagement.¹ (25)

The Centres for Medicare and Medicare Services (CMS) has since tested 54 alternative payment models (APMs) in the decade since its establishment.(27) Their objectives are to deliver better care for individuals, better health for populations, and lower cost. The five original VBHC programs that linked care quality with provider payment, included:

- End-Stage Renal Disease Quality Incentive Program (ESRD QIP).

- Hospital Value-Based Purchasing (VBP) Program.
- Hospital Readmission Reduction Program (HRRP).
- Value Modifier (VM) Program (also called the Physician Value-Based Modifier or PVBM).
- Hospital Acquired Conditions (HAC) Reduction Program.(26)

Alternative payment models have since been applied to specific health conditions, care episodes, provider types, community, and innovation. While several models have reduced healthcare expenditure and improved population and individual health outcomes, others have had no impact or led to increased healthcare expenditure. There is also variation in outcomes across subsets of participating providers. Those programs with limited success have provided valuable lessons to allow the CMS to redesign and relaunch successor models.(27)

States and territories introducing value-based health care

All Australian states and territories have agreed to move towards value-based care through the Addendum to the National Health Reform Agreement 2020-25.(28) It has introduced six long term health reform principles, of which two relate directly to value (Nationally Cohesive Health Technology Assessment, Paying for Value and Outcomes) two that enable greater value to be embedded into the system (Joint Planning and Funding at the Local Level, Enhanced Health Data Collection), and two that enable better

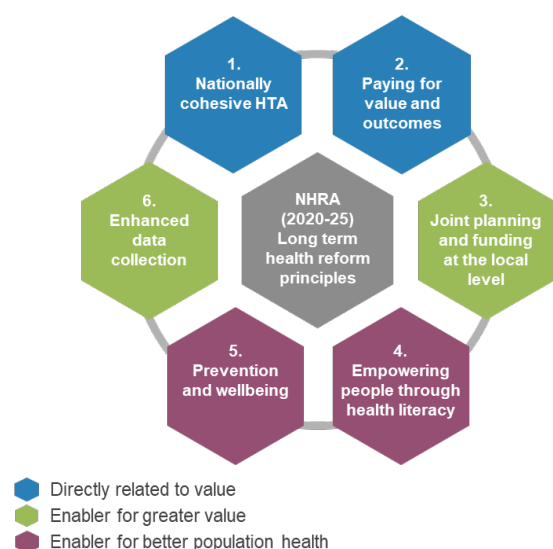
population health (Empowering People through Health Literacy, Prevention and Wellbeing) (Figure 3).

The Paying for Value and Outcomes reform seeks to enable new and flexible ways for governments to pay for health services,(28) by creating stronger financial incentives to improve patient health outcomes and patient equity through best-practice care, delivered within a more coordinated and integrated way.(28) The Long-term Health Reform Agreement outlines a pathway toward

¹ This was achieved through the Health Information Technology for Economic and Clinical Health (HITECH) Act in 2009.

achieving these reforms. The Paying for Outcomes and Value reform will start with developing a National Health Funding and Payments Framework, seek to remove legislative, regulatory and technical barriers to funding reform, and trial and evaluate new funding models by the end of 2024-25.(30)

Figure 3: The six long term health reform principles in the Addendum to the NHRA (2020-25)(ref 28)



The NSW Ministry of Health is furthest down the VBHC path among states and territories. It defines value as outcomes and experiences that matter most to the people receiving and delivering care, relative to the costs of achieving those outcomes. (31, 32) NSW Health seeks to establish a healthcare system around a quadruple aim framework that strives to:

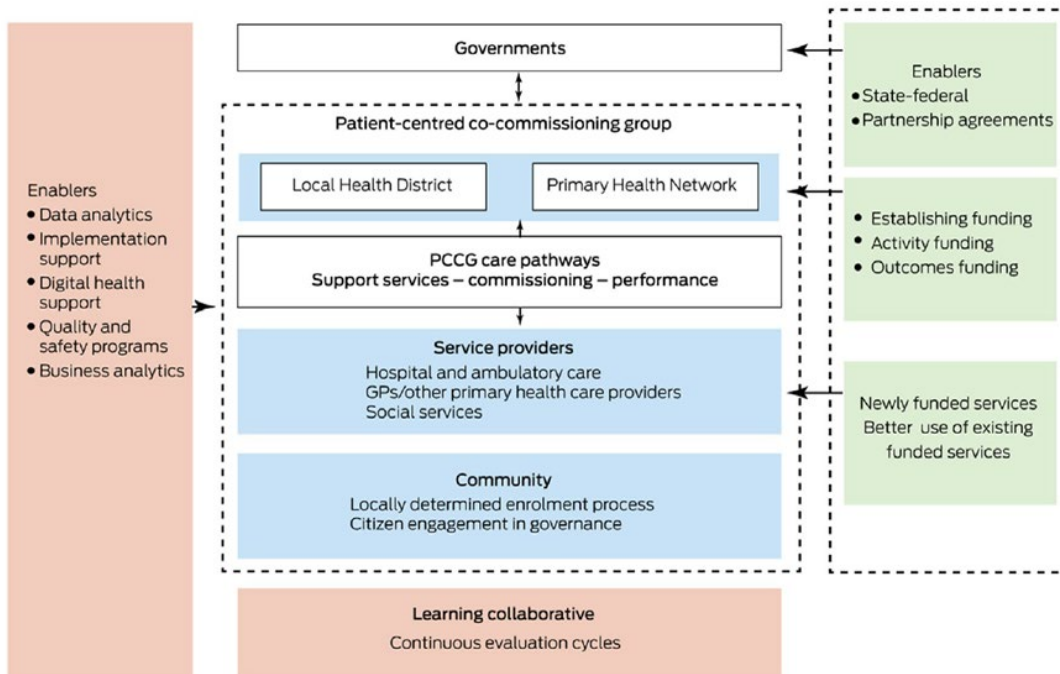
1. improve health outcomes that matter to patients;
2. improve patient care experiences;
3. improve provider experiences; and
4. improve care effectiveness and efficiency.(33)

The NSW Ministry of Health has therefore defined its own VBHC objectives by including patient and provider experiences as explicit outcomes. This is a departure from the original framework created by Porter and Teisberg, who understood the importance of patient experience but only to the extent that it created better outcomes that matter to patients. The NSW definition aligns with calls to better care for the healthcare workforce to avoid burnout and dissatisfaction in the pursuit of better patient outcomes, aligning itself with a proposed quadruple aim framework,(34) which can also be achieved through VBHC.(35)

The NSW Ministry of Health is shifting focus from measuring and monitoring volume to value, which requires providers to better understand the patient and clinician experience, to critically review how and where care is delivered, and to reduce unwarranted clinical variation.(31) The VBHC framework consists of four interrelated programs, including Leading Better Value Care, Integrated Care,(36) Commissioning for Better Value,(31) and Collaborative Commissioning,(37) which is supported by investment in collecting patient reported outcomes and experience measures along with investment in data infrastructure.

Collaborative Commissioning seeks to fund services through outcomes-based payments (Figure 4). It will operate through Patient-Centred Co-Commissioning Groups (PCCG), comprising LHNs and PHNs, tasked with commissioning care pathways that are locally established and based on evidence. PCCGs will have flexibility in what they commission and from whom, being supported by NSW Health enablers, including business analytics; data

Figure 4: Conceptual diagram of the NSW Collaborative Commissioning program



Note: PCCG = patient-centred co-commissioning group. The blue boxes show the stakeholders that are engaged as part of the PCCG. The orange boxes show the enablers provided by NSW Health to support the initiative. The green boxes correspond with the governance and funding reforms to support Collaborative Commissioning.(Ref 38)

analytics; information technology and infrastructure; and quality and safety frameworks.(38) They will receive implementation support from the NSW Ministry of Health, for example by receiving establishment funding to help build governance structures, additional hires of operational staff, and community engagement.(38)

Other states are also exploring VBHC. The Victorian Clinical Council has advised the Department of Health and Human Services and Safer Care Victoria to explore VBHC across the Victorian healthcare system. It recommended developing a strategy, focusing on outcomes that matter to patients, and incorporating social care to improve health outcomes.(39) The Transport Accident Commission (TAC), a Victorian Government

owned organisation that supports road trauma victims, has embedded VBHC as a strategic direction. It seeks to engage with healthcare providers to focus on outcomes that matter to patients, assisted through a value-based healthcare grant program funded and administered by TAC.(40)

VBHC is also being explored within dental health. Dental Health Services Victoria won the prestigious 2022 Value-based Health Care Centre Europe prize for implementing a VBHC model co-designed with consumers and supported by improved data on patient and population level outcomes and experiences.(41) A shift towards value-based health care is also taking place in Queensland,(42) with examples such as initiatives in emergency departments seeking to improve value.(43)

A growing appetite for healthcare funding reform in Australia

The Australian healthcare system is characterised by antiquated funding models that limit innovation and integration. Some funding models introduce perverse incentives for care, such as activity based funding for public hospitals, which may pay for care delivered in a public hospital but not in the community even if preferred by the patient. Other funding models, such as Medicare, encourage overservicing as providers receive more fees for more care, whether the care is appropriate or not. Medicare subsidised health care delivered outside the hospital often requires out-of-pocket payments that can be too expensive for low income individuals,⁽⁵⁾ leading to inequitable access to care and poorer health outcomes.

Funding responsibilities are siloed across federal and state governments for some programs and services, while responsibilities are shared for others. Different funding models are used to fund similar types of care, depending on where care is delivered and by what type of organisation. This increases funding complexity and encourages cost shifting between primary, community and hospital care. Australia's funding system limits holistic, integrated care being delivered across multiple providers within a care pathway.

There is a growing appetite for healthcare funding reform within Australia. The MBS Review Taskforce established in 2015 recognised the need for funding reform while seeking to identify where the MBS funding

model may not be appropriate to incentivise optimal care.⁽⁴⁴⁾ Early evidenced suggests the MBS Review did not impact medical expenditures, the volume of care, or average fees charged between 2016-19.⁽⁴⁵⁾ The MBS Review Taskforce recommended the MBS be complemented with alternative funding models to improve health outcomes. In particular, alternative funding models should target better prevention and coordinated care, better management of chronic conditions, and increased efficiency.⁽⁴⁶⁾ The Australian Government subsequently established the Strengthening Medicare Taskforce in 2022. Its objectives are to recommend improvements to primary care to improve patient access, make primary care more affordable, and reduce pressure on public hospitals.⁽⁴⁷⁾

The Australian Government has started to shift towards more VBHC. The IHACPA seeks to increase value through its value-based pricing of public hospitals. In 2012, the introduction of a national framework for activity based funding and a national efficient price sought to improve patient access to services and public hospital efficiency.⁽⁴⁸⁾ In 2017, all governments agreed to incorporate safety and quality measures into public hospital pricing. The then Independent Hospital Pricing Authority subsequently placed a zero price on an episode of care with a sentinel event, and reduced prices for any episode of care where a hospital acquired complication occurred, or for an avoidable hospital readmission.⁽⁴⁹⁾

Are value-based payments the answer?

The funding model used within a healthcare system can substantially impact care outcomes and population health. Different funding models create different incentives for governments, funders, providers, clinicians, and patients. Different funding models lead to different care access, care prices and care costs. A large amount of literature suggests healthcare providers change behaviours in response to financial incentives, although not always.⁽⁵⁰⁾

Healthcare funding models must meet several objectives, which differ depending on the government of the day, the characteristics of the organisations receiving the funding, and the type of care being funded. (Table 1) Additionally, the importance of criteria may change depending on healthcare and economic circumstances. For example, a funding model that incentivises more efficient care may be more important to government in times of budget austerity.

There is no clear best healthcare funding model, and several OECD countries have sought to blend different payment systems to improve on outcomes delivered through one

type of funding model. A funding model will typically reflect, and drive, the unique care environment, organisational structures, governance arrangements, market characteristics and legacy funding arrangements. For example, the UK has combined global budgets with pay-for-performance. Shifting to value-based payments will therefore likely require some trade-offs, and may only be suitable for some care or provider types, at least initially until government and providers better understand how value-based payments work and can meet policy objectives.

Many funding models in Australia are not fit to support the changing models of care associated with more complex and protracted needs, such as those from managing chronic disease. Australian Governments have highlighted that funding models have led to fragmented care and impose barriers to greater care integration. It is therefore incumbent on a progressive health care system, such as within Australia, to explore new ways of supporting better care through alternative value-based payment models.

Table 1: Funding model criteria extracted from Australian policy documents

Dimension	Definition
Effectiveness	The funding model promotes the most appropriate interventions (preventative or responsive), based on established best practice standards, to achieve optimal health outcomes for the patient.
Safety	The funding model promotes the avoidance or reduction to acceptable limits of actual or potential harm from health care management or the environment in which health care is delivered.
Accessibility	The funding model allows people to obtain health care at the right place and time irrespective of income, physical location and cultural background.
Continuity of care	The funding model allows the health care system to provide uninterrupted, coordinated care or service across programs, practitioners, organisations and levels over time.
Responsiveness	The funding model promotes services that are client orientated. Clients are treated with dignity, confidentiality, and encouraged to participate in choices related to their care.
Efficiency	The funding model achieves desired objectives with cost effective use of resources.
Transparency	The funding model allows for a transparent determination of the allocation of funds across hospitals
Risk adjustment	The funding model takes into consideration the complexity of patients, appropriately rewarding those hospitals that serve the sickest patients
Data needs	The funding model does not require significant investment in additional data collection and quality improvement
Incentives	The funding model builds incentives into hospital management and clinical operations to improve quality, and avoids perverse incentives
Cost effective	The cost of implementing and administering the funding model is not overly burdensome on the government budget
Risk minimisation	The funding model does not expose local health networks or government to potential unplanned variations in revenue streams for hospital care
Choice	The funding model allows patients to choose the setting (acute versus the community) in which they receive care
Simplicity	The funding model is simple to implement and administer for purchasers and providers, with regards to data collection and reporting, and forecasting future funding requirements.

Note: Policy documents searched included NSW Ministry of Health Business Plan 2016-17; NSW Local Health District Service Agreement 2017-18; NSW submission to IHPA on pricing and funding for safety and quality; National Health Reform Agreement 2011; Addendum to the National Health Reform Agreement: revised public hospital arrangements 2012; National Healthcare Agreement 2012; Heads of agreement between the Commonwealth and the States and Territories on public hospital funding 2016; IHPA Consultation paper on the pricing framework for Australian public hospital services 2017-18; Direction to the Independent Hospital Pricing Authority on the performance of its functions under section 226 of the National Health Reform Act 2011; IHPA Pricing framework for Australian public hospital services 2017; AIHW National Health Performance Framework; Improving service sector productivity: the economic imperative CEDA 2017.

Embedding value into funding

Medicare is considered the backbone of universal care funding outside the hospital sector within Australia, although little structural change has occurred since its introduction in 1984. Besides the introduction of a national activity-based funding framework for all states and territories in 2012, which moved most public hospital activity away from block funding, little healthcare funding reform has occurred. This is despite the potentially large improvements in health outcomes and reduced healthcare waste that could result from successful funding reform. It also contrasts other countries, such as the UK where widespread innovation and reform in the NHS payment system has taken place.(53)

Emerging value-based payment models provide an opportunity to innovate funding

once more in Australia. They rely on using extrinsic financial incentives to change provider behaviour to generate outcomes that matter to patients, while putting downward pressure on costs. Australia has experimented with some value-based payment types, such as pay-for-performance and capitation, but results have not been promising. More sophisticated value-based payment models being explored and implemented in the US, UK and other European countries, such as bundled payments and accountable care organisations, also have mixed results but success in some models holds promise. Refining these models will take time as providers adjust their governance, care models and infrastructure to accommodate a shift in financial risk from the payer.

What are value-based payments?

Value-based payments can be considered payments that incentivise providers and clinicians to change their healthcare behaviours to improve value. This therefore depends on how value is defined. Using the Porter and Teisberg framework, a value-based payment is one that incentivises providers to improve outcomes that matter to patients, reduces costs associated with delivering those outcomes, or both. Outcomes are described in terms of Capability, Comfort and Calm. Capability allows patients to be their aspirational self, which is typically tracked using function measures. Comfort is being free from pain, anxiety and distress, while

Calm is the ability to live normally while receiving care.(35)

While the definition of value-based payments may differ across healthcare systems, their function is the same. Value-based payments seek to use financial incentives to provide extrinsic motivation to providers to align their behaviour towards delivering outcomes sought within the healthcare system. These are typically implemented alongside other levers government and funders use to align behaviours with policy objectives, such as performance measurement, contractual obligations, accreditation, regulation and licensing. There are also intrinsic motivators for providers and clinicians to deliver good

quality care, such as the desire to improve patient health outcomes, motivation to

Value-based payment models

Australian healthcare providers are mostly funded either through historical block payments, activity based funding or fee-for-service. Many providers receive funds from multiple model types. For example, Aboriginal Community Controlled Health Services (ACCHS) receive funding from the Indigenous Australians' Health Programme (block funding), from Medicare (fee-for-service), and from the Practice Incentive Program (pay-for-performance) along with other program and jurisdiction sources.⁽⁵⁵⁾ Blended funding models can increase administrative costs for providers and improve access to funds, but in the case of pay-for-performance, can increase funding uncertainty. However, blended funding models also allow governments to better target funding to incentivise the delivery of desired services and provider behaviours.

Australian funding models are misaligned with value-based health care (Appendix 1). Historical block payments provide no incentive to improve quality or reduce unit costs and can incentivise providers to reduce patient volume and 'per patient' service volume if savings can be retained. Fee-for-service funding models like Medicare also fail to incentivise quality or reduced costs, and perversely incentivise providers to increase patient volume, increase 'per patient' service volume, and increase severity assessment to obtain a greater price. This can create overservicing and supplier induced demand.⁽⁵⁶⁾ Activity based funding does

perform a task well, and aligning with social and peer group norms.⁽⁵⁴⁾

encourage public hospitals to reduce unit costs and 'per patient' service volume, but not quality.

Australia does use pay-for-performance funding models, although the volume and value of care funded with these models would represent less than 0.1 per cent of total healthcare expenditure. For example, the Australian Government uses the Practice Incentive Program (PIP) to motivate general practices; and the NSW Ministry of Health implemented its [Leading Better Value Care](#) program, where public hospitals are paid a lump sum amount to introduce best practice clinical care within 13 defined clinical initiatives, such as chronic heart failure. Capitation models have been explored in Australia, with little success, while models that seek to bundle services across multiple provider types, such as bundled payments, are embryonic.

Pay-for-performance

Australia has experimented with pay-for-performance models but commitment from government to this funding model type has been negligible compared to the US and UK. The PIP is one Australian example. It was introduced in 1999 and has provided additional funding to accredited GPs across multiple incentives. Currently there are 10, which mainly seek to increase access to GP care services. One specifically aims to incentivise GPs to undertake continuous quality improvement activities with their primary health network. A study found the PIP did not meet its objectives of increasing diabetes testing or cervical cancer screening.(57)

Another example of pay-for-performance in Australia is the Diabetes Care Project (DCP), conducted between 2011-14. It provided Quality Improvement Support Payments that rewarded GPs across five indicators, including patient experience, patient adherence with a care plan, care plan completeness, accurate and timely data entry, and managing HbA1c levels. An evaluation suggested that while the DCP led to small improvements in health outcomes, it was uncertain whether the program was cost effective.(58)

Pay-for-performance models aim to change provider behaviour by providing either a reward for achieving good outcomes or a penalty for delivering poor outcomes. While an improvement in patient outcomes is typically the primary goal, patient outcomes are often not reported, or are impacted by factors other than care, such as patient characteristics and behaviours. That makes attribution between care and patient

outcomes problematic, reducing trust among providers and clinicians that data they are collecting is appropriately measuring their performance.

Pay-for-performance models often rely on process indicators to measure performance. These are statements about a type of care that should be delivered to a patient as deemed by the funder. Clinical process indicators are usually informed by clinical guidelines, clinical expert opinion and a review of published evidence. Their use relies on a relationship existing between delivering the process and good health outcomes. Alternatively, pay-for-performance models are sometimes used to influence non- health related outcomes, such as improved efficiency.

Designing a pay-for-performance model must tailor several features to the unique healthcare environment it seeks to influence. Performance measures must be chosen, which can include health outcome, process indicators or patient experience measures. Several process indicators may be combined with health outcome measures into a composite indicator to measure provider performance, upon which financial incentives are placed. Incentives must be large enough to motivate change and compensate the associated marginal cost, but small enough to avoid overpayment. This can be challenging given providers are heterogeneous in their cost structures, ability to change care models, and external environment (e.g., access to workforce).

Pay-for-performance models either deliver a financial reward or financial penalty. While individuals tend to respond more strongly to losses,(59) the decision between a reward or

penalty should consider whether the payer requires a budget neutral scheme, desired effect size and acceptability of penalties by providers. In general, rewards are considered more palatable by providers given penalties remove funding. This can limit their capacity to improve future performance.(60)

Finally, a pay-for-performance model must contain a performance target. This could be an absolute target, such as the proportion of diabetic patients that appropriately manage their blood glucose levels, or a relative target that measures the performance of one provider either to their own performance in the past, or to another similar provider.

Examples of relative performance include:

- a tournament approach, where the top performing providers receive a bonus, or the bottom performing providers are penalised;
- a peer performance approach, where providers are rewarded based on their

Capitation

Capitation payment models have been explored within Australia but their use has been limited. Capitation is used by the Australian Government to pay aged care providers to deliver care within residential care homes. The [Australian National Aged Care Classification](#) (AN-ACC) model pays providers based on a resident risk assessment that considers physical ability, cognitive ability, behaviour and mental health, with the price determined by the resident's allocation into one of 13 classes of care funding. Capitation was also used within the Diabetes Care Project. GPs were paid a prospective payment per patient based on the patient's assessed

performance relative to a provider peer group; or

- a historical performance approach, where providers are rewarded based on their own performance improvement over time.(60)

There is no evidence to suggest absolute targets are better than relative performance targets.(61) Absolute targets are more transparent, easier to interpret, and less uncertain, but may not motivate high performing providers to continue improving, nor providers with a low capacity to improve their performance (59, 60). Relative performance targets are potentially better to incentivise low performing providers to exert effort.(59)

Pay-for-performance models have mostly been used in the US, although other countries such as the UK have adopted these models, such as the Best Practice Tariff funding model that incentivises providers to deliver best practice care through pricing.(62)

diabetes risk across five categories, and were not allowed to seek additional funding from the MBS for care plans, team care arrangements and related items.(58)

Capitation funding models pay a provider to manage patient outcomes, providing full flexibility over the services delivered to the patient. Providers are paid to manage a patient over a defined period. As providers are paid based on the patients they register, there is an incentive for providers to select patients with the lowest health risk. Consequently, more contemporary capitation funding models risk adjust the price paid for each patient based on the patient's characteristics. The

variation in price is meant to reflect the variation in healthcare need, although patient characteristics are not a perfect predictor of need, and access to care varies considerably within countries, so some financial risk remains for the provider. It has been argued that capitation can reduce more healthcare waste than bundled payments because like bundled payments, it incentivises reducing supplier price and unnecessary care, but unlike bundled payments, also incentivises reducing patient volume,(63) although available evidence does not support (or deny) this argument.

Capitation payments are typically used within primary care environments. Their primary

Bundled payments

IHACPA is exploring the potential to introduce bundled payment models into the Australian healthcare system. For example, maternity care was identified for trial, as services span different care settings and hospital costs varied considerably. However, implementation was scrapped due to inaccurate pricing from a lack of unique patient identifiers and limited patient level information. IHACPA has also undertaken preliminary analysis to determine where other conditions may benefit from bundled payment arrangements, such as chronic kidney disease. Bundled payments are also being explored within private healthcare in Australia. GenesisCare is implementing a 12 month early-stage breast cancer bundled pilot in 2022 in Western Australia. It seeks to deliver best practice care from diagnosis to post-treatment while keeping patient out-of-pocket costs under a defined threshold.

Bundled payments were introduced in the US nearly 40 years ago, although interest has

objective is to reduce healthcare expenditure relative to fee-for-service models. Providers are incentivised to closely consider whether the services they provide are high value. Providers keep savings made from delivering care, although they are also exposed to uncompensated costs if expenditure for care is greater than the capitated price for the patient. However, providers also have an incentive to reduce services to a suboptimal level, as this may increase savings but also unrecognised worse health outcomes for the patient. This incentive is strongest when patients cannot recognise what good quality care constitutes, or when care impacts health outcomes far into the future.(64)

increased since 2010, when the Secretary of Health and Human Services was required to experiment with, and evaluate whether bundled payments could reduce costs for hospital-initiated episodes.(65) The primary objectives were to increase care quality and coordination while reducing healthcare expenditure for Medicare.(65) Prior, providers were paid using a fee-for-service model, which failed to incentivise the delivery of good quality care.

A bundled payment contract is typically between a payer and either a single provider or multiple providers that compensates for delivering a defined set of services within an episode of care. Services can span physicians, hospitals, and post-acute care. An important consideration is what services to include in the bundle. A narrow bundle definition could incentivise providers to shift care outside the bundle.(65)

Payers pay a fixed amount for the episode of care, sometimes upon an index event (e.g., hospitalisation), that continues for a defined period of time,⁽⁶⁵⁾ with the funds distributed across the participating providers. Payments are sometimes risk adjusted to account for different patient healthcare needs. Payment can be distributed prospectively or retrospectively. For example, within the US Bundled Payments for Care Improvement (BPCI) initiative, one model was to pay providers retrospectively where expenditures were reconciled against a target price for an episode of care. Medicare continued to pay providers their fee-for-service price but providers kept their payments if total expenditure were less than the target price, or were required to pay back Medicare if the target price was less than total expenditure. Another model paid providers (in this case hospitals) a single bundled payment prospectively, and providers delivering services within the episode of care were paid by the hospital out of the bundled payment.⁽⁶⁶⁾

Bundled payments provide an incentive to reduce costs (e.g., reducing low value care volume) because providers have discretion over what services are delivered, and any difference in the episode price and total care cost (i.e., savings) can be shared. In contrast, a fee-for-service model pays providers individually for delivering services within the episode of care, and therefore incentivises providers to deliver more services to a patient.

Accountable care organisation models

Accountable care organisation funding models hold groups of voluntary providers accountable for the total cost and quality of

Consequently, bundled payments can potentially provide greater incentives to better coordinate care across multiple providers, as care coordination could lower costs but is not often delivered within a fee-for-service model.⁽⁶⁷⁾

Designing a bundled payment model must consider several features. Across 16 bundled payment models introduced in the US, these features have been combined into eight groups. These are:

1. whether the initiative is a voluntary program;
2. the expected cost savings to the payer assuming no change in utilisation;
3. the medical conditions included in the initiative;
4. the types of provider services covered by the bundle;
5. the duration of the episode;
6. when payment amounts are determined and administered;
7. the location of participants; and
8. the number of participants.⁽⁶⁵⁾

Bundled payments are also used in healthcare systems outside of the US, although not to the same extent. An example includes the Choice of Care in Hip and Knee Replacement (OrthoChoice) in Sweden, which set a bundled price to cover care within the hospital and primary care. It also combined this payment model with a pay-for-performance model, where providers were paid by achieving process indicator targets.⁽²⁰⁾

care delivered for a defined population.⁽²⁷⁾ Most ACO models are implemented in the US, with others located in Europe, Singapore and

New Zealand.(68) They vary considerable in their characteristics, in terms of which providers are included in the ACO, care models used to achieve outcomes, risk and reward structures, contractual obligations, and payers. Older ACOs have used historical expenditure benchmarks to set targets, while newer ACOs are employing targets that are risk adjusted based on population health.(68)

Within ACOs, providers are incentivised to reduce expenditure while maintaining quality

Mixed success from value-based payments

While some behaviours within healthcare are motivated by financial incentives, the extent to which financial incentives change various types of behaviour is less clear. A poorly designed funding model may pit an extrinsic motivation created by a financial incentive against an intrinsic motivation held by the clinician, thereby leading to internal conflict. Financial incentives may 'crowd out' intrinsic motivation by undermining clinician autonomy and competence.(69)

Financial incentives have:

- mixed effectiveness when trying to change service volume;
- are somewhat effective in improving processes of care, referrals and admissions and prescribing costs; and
- are somewhat ineffective in improving guideline compliance by clinicians.(29)

There is little evidence that pay-for-performance financial incentives can systematically improve patient outcomes, although methods for evaluating programs are limited and are not generalisable.(54) An updated study on the impact of financial

mainly by participating in savings, although some models also penalise ACOs if expenditure is greater than targets.(68) ACOs sometimes represent a form of capitation based payment. For example, CMMI pays ACOs under the Global and Professional Direct Contracting Model either a partial or full capitated payment. ACOs can then pay participating providers using their own payment arrangements or rates, but participate in either 50 per cent or 100 per cent of shared savings or losses generated.(27)

incentives to encourage value-based care reported on 1,302 outcome measures across 44 schemes. It found just under half reported a positive and statistically significant outcome.(50)

Variability in results spans all value-based payment types. A review of 46 evaluations of pay for performance funding models in 14 OECD countries implemented within inpatient hospital settings found mixed improvements in outcomes.(60) Of those programs that did improve outcomes, the effects were relatively small and were often short lived, dissipating over a few years. Similar results are found in other reviews of pay for performance models.(70, 71)

There is also the potential for unintended consequences within pay for performance models,(60, 70) such as re-coding episodes of care to avoid penalties, although these are poorly measured. Little evaluation has been undertaken to determine whether pay for performance programs are cost effective.(72) There are potentially other 'low cost' mechanisms that could achieve similar

outcomes, such as better performance measurement and reporting.(60)

Evidence on the effectiveness of bundled payment models is less mature compared to pay for performance, although a firm view of their limited impact on improving health outcomes is becoming clear. Studies comparing three bundled payment models operating in the US (Acute Care Episode Demonstration, Bundled Payments for Care Improvement initiative, Comprehensive Care for Joint Replacement model) compared to fee-for-service models found six of 16 studies significantly decreased episode payments, with other studies found mostly no change.(73) These models led to reduced discharges to post-acute care facilities and reduced hospital length-of-stay, although more than a third of studies found no significant impact on these outcomes. While one third of studies found a significant reduction in readmission rates, there was no significant reduction in complication rates, emergency department visits or mortality.(73)

This limited impact on care quality is found in other evaluations of US bundled payment models, concluding that bundled payments are potentially effective in containing healthcare expenditure but they mostly only preserve health outcomes.(65) Reduced expenditure mostly comes from providers lowering production costs by changing their models of care, shortening length of stay, and renegotiating prices with suppliers. Evidence on whether bundled payment models increases volume or leads to case-mix selection by providers is limited.(65)

Results for capitation funding models and ACOs are also modest. Early evaluations of

capitation focused on models with limited risk adjustment for payments. Many studies were not rigorous and did not account for potential bias, although those that did showed limited impact on care access and quality.(64) Other reviews of capitation models versus fee-for-service models have not found significant differences in care quality for people with chronic conditions.(74)

ACOs have experienced small improvements in quality and patient experience scores, along with some savings.(68) Several ACOs in the US have reduced hospital admission rates and ED visits, although others have resulted in savings only with no change in care quality.(27) On some occasions, savings from ACOs have been significant. An evaluation of ACOs across four US states found savings ranged from \$5.4 million in Maine, to more than \$65 million in Minnesota within the first year of operation.(75)

One key factor is the starting position of ACOs, with providers experiencing a higher 'per capita' expenditure potentially in a better position to save once they have entered an ACO.(68) Reported savings are gross, excluding substantial implementation costs,(75) suggesting cost effectiveness, at least in the initial years, is likely somewhat subdued. An evaluation of 21 US Medicare alternative payment models found 14 models resulted in gross savings but only six models resulted in net savings and six models resulted in net losses once the cost of generous financial incentives (to ensure robust participation) was considered.(76) Only four models from more than 50 models tested by CMMI have met the conditions for being expanded in duration and scope.(77)

Can value-based payment effectiveness be improved?

While outcomes for value-based payments are mixed, they can be successful if designed appropriately with the local circumstances of providers in mind. However, catering too much to provider circumstances can minimise incentives to change behaviour, given change can be complex, costly and risky for providers. It is natural for providers to push back on value-based payments if the incentive structure fails to compensate for increased risk, fails to cover the marginal cost associated with meeting incentive targets, or fails to attribute health outcomes to care.

Changing provider behaviour is complex and there is little guidance given success must be tailored around unique program participants, incumbent governance structures and the type of outcomes being incentivised. Value-based payments targeted at the 'right' type of provider may help with success given outcomes are somewhat heterogenous across provider characteristics (e.g., size and teaching status), clinician characteristics (e.g., age and gender), and patient types (e.g., types of health conditions and complexity).(73, 78) Even within programs that show less success on average, there is heterogeneity in results for different provider types.(27)

There is no clear indication on what design characteristics best promote effective value-based payment models. The study design used to evaluate a value-based payment model seems to be the strongest predictor of outcomes, with better study designs showing less effectiveness.(50) Other design characteristics, such as the study setting,

paying rewards for quality and costs, and the size of payment were not found to significantly impact outcomes. Attaching payment to a specific use (compared to discretionary use) seemed to increase effectiveness while rewarding for performance seemed to reduce effectiveness.(50)

Evaluations of value-based payments among OECD countries are relatively weak.(60) They have not captured the interaction between design characteristics and context, nor measured a change in one design characteristic while holding all others constant.(78) Evaluations have also suffered from potential bias due to missing information on all factors that impact outcomes. Self-selection into voluntary programs means provider characteristics are likely endogenous to outcomes.(64)

Most evaluations have focused on patient and provider characteristics given there is greater variation within schemes. Some studies have developed a list of 'best practice' for pay for performance models, which includes a focus on stakeholder engagement, although there is disagreement among these studies.(61, 79) Design characteristics should be tailored within the same funding model to different provider types given heterogeneous performance starting positions and capacity to influence their environment.

Further improvements to value-based payments are ongoing. None more so than the US, where the Center for Medicare and Medicaid Innovation (CMMI) is developing and testing new payment and care models to

reduce Medicare, Medicaid, and Children's Health Insurance Program (CHIP) spending without compromising care quality.⁽²⁷⁾ CMMI was allocated US\$10 billion when it was established in 2010. It has developed a large evidence base upon which CMMI relies to either abandon a payment model or refurbish a model to improve outcomes after five years of initial operation.⁽²⁷⁾ While expenditure savings and improved health outcomes have been modest, the alternative payment models implemented and refined by CMMI have given providers an opportunity to provide care more efficiently and receive a financial reward, given

greater flexibility to tailor their care models to promote efficiency and health outcomes, and has incentivised providers to invest in new infrastructure, new care models and more prevention activities.⁽²⁷⁾ CMMI has since been awarded another US\$10 billion to continue experimenting with alternative payment models until 2030.

Shifting financial risk onto providers

Value-based payment models seek to move a healthcare system away from rewarding providers to deliver care, to rewarding providers for keeping people healthy.⁽⁸⁰⁾ In the process, financial risk is shifted from payers onto providers, under the premise that increased financial risk provides increased provider motivation to produce better health outcomes, avoid low value care, and save on costs, benefiting the payer and providers.

Increased financial risk is moderated by patient, provider, care pathway and model characteristics. A provider will need to improve their risk management practices when entering a value-based payment model. While financial risk will be explicitly impacted, strategic, operational and clinical risk may also increase.

Financial risk sharing

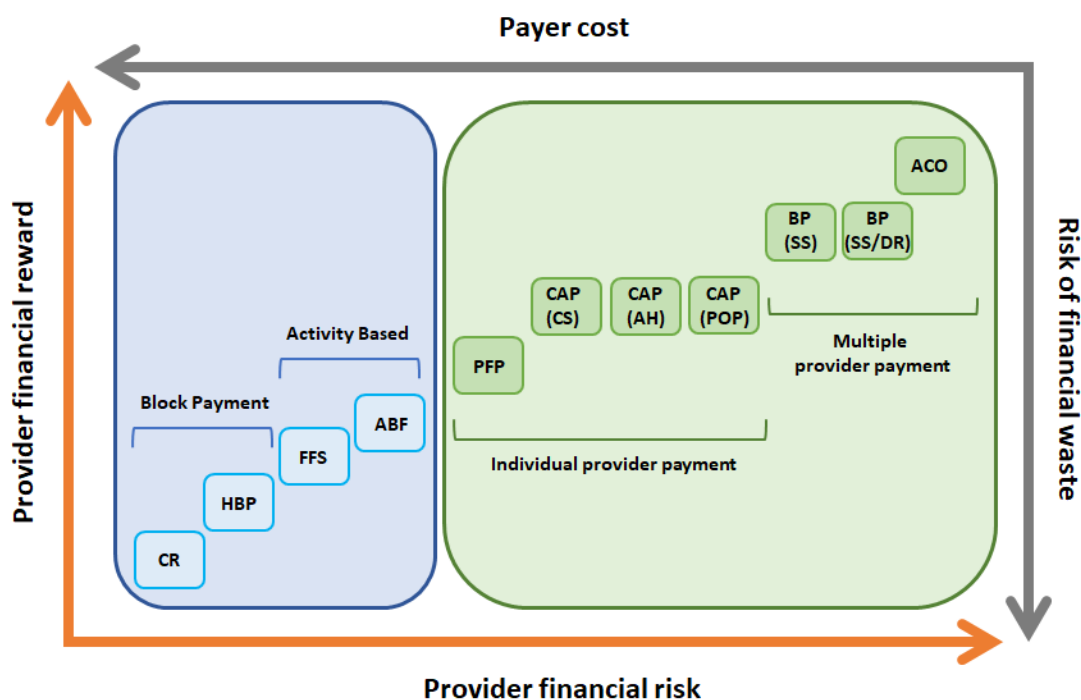
Moving towards value-based payments means shifting financial risk from payers onto providers. (Figure 5) The more financial risk a provider takes on, the more reward they require to justify participating in the new funding model. Other risks may also increase for providers, such as strategic risk, operational risk and clinical risk, as providers respond to their new funding environment by changing their business and care models. The risk that a provider wastes funding will reduce as more reward is attached to outcomes, potentially leading to savings for the payer.

Some risks will be outside the control of the provider, especially those associated with assessing future patient healthcare needs. Providers are likely to have incomplete data given health outcomes are impacted by factors outside their clinic.

Errors in attributing provider behaviours to health outcome measures, and complexity within the care pathway, may also reduce the probability of identifying a causal and attributable relationship between provider behaviours and chosen health outcome measures. Substantial investment in information technology, data collection and data analysis will be required to minimise these errors.

Cost reimbursement and historical block payments are both payment models where the provider receives funding in a block amount. Retrospective cost reimbursement has the lowest provider financial risk because all costs are covered. Prospective cost reimbursement has a slightly greater financial risk as costs may not align with revenue if the provider has not accurately estimated their costs for delivering services.

Figure 5: Risk and reward profiles of funding models across the value-based spectrum



Note: CR = Cost reimbursement (retrospective); HBP = Historical block funding; FFS = Fee for service; ABF = Activity based funding; PFP= Pay for performance; CAP (CS) = Capitation (Condition specific); CAP (AH) = Capitation (All health); CAP (POP) = Capitation (Population based); BP (SS) = Bundled payment (Shared savings); BP (SS / DR)= Bundled payment (Shared savings / Downside risk); ACO=Accountable care organisation.

Fee-for-service and activity-based funding both rely on activity to receive revenue. There is some financial risk associated with these models because provider revenue declines as activity declines. Nonetheless, revenue is mostly predictable given activity is mostly predictable, especially for larger providers, and providers can induce further demand.⁽⁵⁶⁾ For public hospitals, state and territory government revenue can also be drawn upon if an unexpected healthcare need within the community must be addressed, for example.

Value-based funding models impose more financial risk onto providers because their revenue becomes tied to outcomes. Pay for performance will often have a specific

outcome the provider must achieve to receive a reward. If this reward is additional to their usual fee-for-service payments, for example, then there is no additional risk imposed onto providers. However, some pay for performance funding models are constructed with either discounts to usual fee-for-service payments, or financial penalties for not achieving performance targets. Internationally, most hospital pay for performance models include only a small proportional financial incentive to motivate behaviour, between 1-3 per cent in the US and 4-24 per cent in the UK,⁽⁸¹⁾ while incentives for GPs are typically between 5-10 per cent,⁽⁵⁹⁾ minimising any increase in financial risk for providers. This is

potentially one reason why studies have found a weak relationship between financial incentive size and effectiveness in improving outcomes.(60, 71, 82)

Capitation models are typically riskier than pay for performance because the size of the financial incentive is likely to be larger than pay for performance. Capitation also requires providers to better understand their patient cohort to accurately assess the expected future cost of each patient and where savings can be made within a care pathway without compromising quality. This requires risk adjustment, which will be unfamiliar to providers when entering a capitation model.

Bundled payments and accountable care organisations operate on the same savings

Sources of financial risk

A provider must ensure risk management is embedded into governance structures, management tools and its risk culture. Provider capability to assess and manage risk will impact successful outcomes. Financial risk to providers from entering a value-based payment model will be derived from several sources, including:

- whether the model focuses on a specific condition or general health;
- whether the model includes enrolled persons or populations;
- complexity of the care pathway being funded;
- length of the care episode;
- number of providers in the shared savings model; and
- size of the patient cohort.

Savings based funding models that focus on one condition will be less risky (all else being

premise as capitation. However, health outcomes and savings require coordination within a care pathway across multiple providers. This can expose each provider to the performance of the other, which is a risk not easily managed. Consequently, a greater reward is required if payers are to entice providers into these types of models.

The relative position of each funding model in Figure 5 will ultimately depend on the size and type of incentives and penalties, and contractual terms and conditions. It is not necessarily the case, for example, that pay-for-performance will always have a lower risk and reward profile than all other value-based payment models.

equal) because the data required to assess the risk of future healthcare costs is less. Similarly, a funding model that pays a provider to care for a defined population will be most risky as risk adjustment is unlikely to accurately capture true future healthcare costs. Data on most social determinants of health, for example, are unlikely to be adequately captured within risk adjustment algorithms if this data is not routinely collected.

The type and length of episode will also impact financial risk. Episodes of care where outcomes are substantially impacted from services outside the control of providers, such as social services and housing, increases health outcome uncertainty. Providers have avoided accountable care organisations in the US because their revenues have depended on patient activities outside the clinic that could not be controlled by the provider.(25)

The more multidisciplinary the care required, the greater the number of providers are required to coordinate within a shared savings model. Long episodes of care can also impose additional risk on providers because they are accountable for more future care quality and patient outcomes.⁽⁶⁵⁾ However, a larger the patient cohort can help a provider diversify risk associated with some patients requiring substantially more healthcare than predicted (the outliers).⁽⁸³⁾

Bundled payment models potentially represent a greater risk to providers than capitation because providers rely on collaboration with other providers. They have only partial control over their response to managing risk. Bundled payment models that use savings and require reimbursements if expenditure exceeds a cap are riskier than participating in just shared savings.

Sources of new opportunities

Any change in risk will require a change in strategy as risk and strategy are interwoven. Value-based payment models may present new opportunities for providers to increase patient volume by capturing market share (in the case of private providers) or participating in incentive payments or savings, by better covering the marginal cost to improve quality.

Positive externalities can also be created from investment undertaken in response to

Accountable care organisations also share risk across providers, and mostly target the general population.⁽⁶⁸⁾

Providers will have a risk appetite (either explicitly or implicitly) that aligns with their strategic objectives. Their risk appetite will be driven by several factors, including the provider's strategic objectives, size, service offering and service delivery environment, along with its capacity to take on and manage risks. For example, a provider that owns several general practices may be more willing to participate in a value-based payment model because it can spread the risk over a larger revenue and cost stream, compared to a general practice that is singularly owned. A risk appetite is typically not fixed and may change relative to the provider's business cycle maturity, strategic pursuits, and changes to the operating context.

entering a value-based payment model,⁽⁶⁵⁾ such as better information technology, better access to health data, better data skills, and better business processes. Providers will be reluctant to participate in a value-based funding model where the reward does not sufficiently compensate their increased risk, which can stifle the quick adoption of systematic reform.⁽⁸⁴⁾

Potential provider financial impacts

Revenue

There is an inherent risk associated with payers getting incentives wrong within value-

based payment models. Incentives aim to change provider behaviours to better integrate

with other providers and changing models of care. Providers must develop new shared decision tools and health information technology infrastructure, and collect and analyse outcome, quality and cost data, which imposes additional costs on providers.

Activity and cost data may not be readily available to the payer or within a standardised format to compare across providers, which makes setting an appropriate incentive challenging. This is particularly the case if providers are starting in substantially different quality and cost positions. Providers recognise that poorly set incentives can impact revenue and their budget and will not participate if patient risk stratification does not appropriately account for future healthcare needs that each provider must deliver.

Many providers (especially small ones) will likely struggle to assess future patient healthcare needs and associated expenditure. Providers must collect and analyse patient data to determine their overall financial exposure to a change in their patient's health outcomes. This should include determinants of health outside their clinic, including data locked away in other government departments such as social services. This type of data, along with much needed healthcare data, is currently neither collected nor analysed by providers. Government collected patient data can be relatively old and of poor quality, or not organised for the purpose of assessing future healthcare needs.

Access to patient data will likely be difficult. Important sources of data, such as private health insurers, are not beholden to release their data. Privacy legislation will impose additional barriers to accessing detail patient level data.

Providers may inadvertently enter a value-based model believing they have accurately measured their patient cohort risk, only to discover their patient cohort is less healthy than first anticipated. In this situation, voluntary provider participants will seek to drop out of the funding model, potentially leaving the public healthcare system to ensure patients are transitioned to an appropriate alternative care model. (see Box 1)

Box 1: Assessing patient risk on the Central Coast NSW

The Central Coast Local Health District (CCLHD) in NSW introduced a novel Outcomes Based Commissioning (OBC) program in 2017-18. OBC targeted a region characterized by low socioeconomic status, high prevalence of chronic disease, and limited access to public transport. OBC purchased care coordination from two not-for-profit providers by allowing them to keep savings from reducing unplanned hospital use. The objective was to keep vulnerable older people healthy and at home, thereby reducing public hospital costs.

OBC targeted people that were aged 65 years and over, had two or more chronic conditions, had received one or more unplanned hospitalisation in the prior year and was a patient at one of four selected GP practices. Providers chose to be wholly paid by the amount of unplanned public hospital bed days they could save.

An evaluation of OBC found the two not-for-profit providers may not have adequately assessed the future healthcare needs of their patient cohorts. Both provider patient cohorts experienced their expected annual number of unplanned hospital bed days in the first six months of OBC. Hospital administration data showed several patients used a significantly greater length of stay for their unplanned hospitalisation compared to the mean. An evaluation of OBC identified several issues that hampered the ability of providers to adequately assess their financial risk. These included:

- a risk stratification process undertaken by CCLHD that led to an older and more complex patient cohort than anticipated;
- providers had restricted access to patient information before entering their contract with CCLHD due to privacy legislation; and
- less patient enrolment than expected, limiting their capacity to invest in care coordination activities and staff.

As providers could no longer meet their unplanned public hospital bed day targets, there was no financial incentive for providers to continue offering coordinated care. While CCLHD could have asked providers to uphold their contractual obligations, they renegotiated contracts to ensure providers were paid to deliver care coordination for the remainder of the trial period and safely handover care. It was thought by CCLHD that holding providers to their original contract would conflict with the NSW Government Model Litigant Policy for Civil Litigation. (85)

This case study demonstrates that governments cannot shift all risk onto providers through a value-based payment model. While some financial risk can be shifted, governments still have an obligation to ensure patients receive safe and effective care.

Costs

Value-based payment models require payers and providers to understand current and future costs, yet costs are somewhat of a black box for payers and not wholly understood by providers.⁽⁸⁶⁾ Payers need to understand provider costs to appropriately set incentives. While costs are well known for Australian public hospitals given the national efficient price and national efficient cost are based on the National Hospital Cost Data Collection and the National Public Hospital Establishments database,⁽⁸⁷⁾ there is no equivalent cost database for other provider types, such as GPs. Substantial investment in collecting and analysing cost data for providers other than public hospitals is required for a successful value-based payment model.

Shared savings models require providers to understand the distribution of costs across a care pathway so they can identify potential savings. Resource costs within a care pathway (e.g., primary care, hospital care and rehabilitation) are likely to differ substantially across conditions.⁽⁸⁸⁾ Many providers do not fully understand the cost of treating their patients for a specific medical condition, instead using charges to proxy for costs.⁽⁸⁶⁾ Cost accounting methods do not break down costs by condition, nor have any consideration for complex patients, such as those with comorbidities. In the US, if providers do not understand the potential to reduce costs, they are unlikely to participate in a shared savings model.⁽⁶⁵⁾

One option is to employ time driven activity based costing (TDABC) to better estimate care pathway costs and therefore potential savings within a bundled payment or ACO model. This

requires mapping the care pathway each patient takes and assigning resource costs within each step. While some have suggested TDABC is ideal for measuring costs in VBHC programs,⁽⁸⁹⁾ it represents a new way of accounting for providers, requiring additional resource and training. Its applicability to shared savings models in healthcare is not yet demonstrated.⁽⁹⁰⁾

Providers will need to ensure clinicians can use outcome and cost data to identify which activities can be reduced or removed without impacting outcomes.⁽⁹¹⁾ Providers must ensure they can estimate the volume of services that will be delivered and the unit cost associated with delivering those services. Providers will also experience investment costs that will need to be recouped. Examples include:

- investing in new relationships with other providers;
- new information technology;
- new billing practices;
- new models of care;
- new governance and risk management practices;
- training clinicians and administration staff; and
- cultural change towards generating value.

These additional upfront costs create opportunity cost because expenditure could be spent elsewhere if the provider remained in the incumbent funding model. It is opportunity cost the provider should consider when deciding to participate in a value-based payment model.

Health service unit costs (e.g., wages and the price of consumables) will change annually. Long term contracts will create greater cost uncertainty as unit costs reflect inflationary pressures. It becomes harder to predict total costs when inflation is volatile. Similarly, clinician and patient preferences will affect the adoption of new healthcare technology, which is typically more expensive and the main driver of healthcare expenditure over the long term.(7)

A shared savings model could delay the introduction of expensive technology if health outcome improvements do not reduce healthcare costs elsewhere. It could increase tension between providers and clinicians given preferences for new technology, or additional

Cashflow

Cashflow may factor into the implementation success of a value-based payment model. Most Australian providers are paid retrospectively from government, for example when GPs undertake services they bill Medicare. Other providers receive funding prospectively, for example public hospital budgets are negotiated each year with local health networks even though funding from the Australian Government to states and territories through the National Health Funding Body is retrospective.

Noisy outcome measures

One consistent feature of value-based healthcare is to generate outcomes that matter to patients. However, complying with clinical guidelines is only one factor that impacts outcomes,(91) so attributing

diagnostic tests, for example, may be misaligned. The provider may seek to control costs while the clinician seeks to improve health outcomes.(86)

If a shared savings funding model does not account for future cost increases, any reward will diminish over time, either incentivising providers to drop out in a voluntary model or reducing their net budget position in a mandatory model. For private providers, where the required rate of return on investment should reflect business risk, uncompensated cost increases may create perverse incentives, such as the provider increasing prices, leading to greater patient out-of-pocket costs.

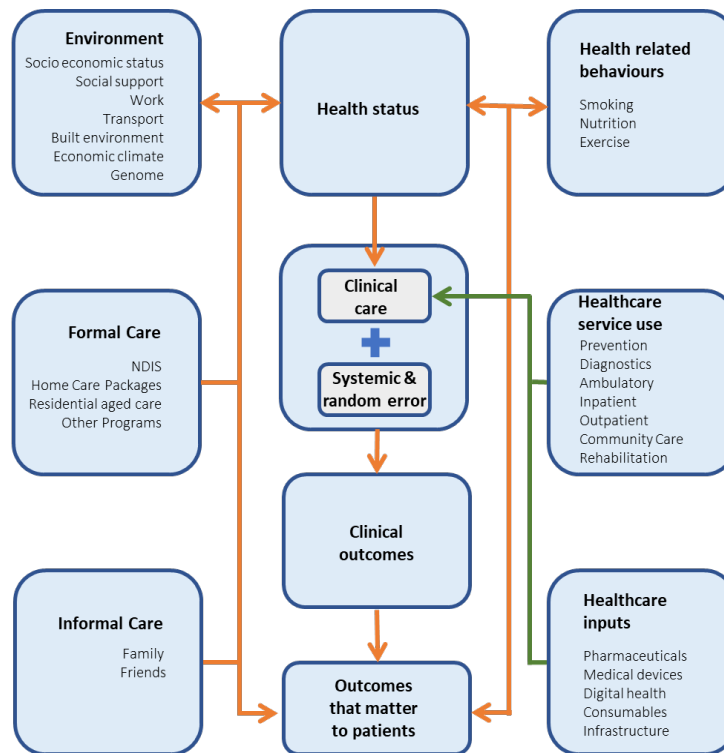
Value-based payments can impact cashflow significantly if payments shift between prospective and retrospective. A substantial investment to cover upfront costs will also require greater cashflow, while payment for services could be delayed if payment depends on future outcomes. Providers may need to find another source of cashflow, such as debt or equity, which may not be easily obtained.

outcomes to provider actions can be challenging. A value-based payment model will only work if outcomes are accurately measured and can be attributed to provider care.

Outcome metrics must have little randomness and not be substantially impacted by determinants outside the provider’s control, otherwise they become too ‘noisy’ to attach to funding. Clinicians can overestimate the

impact their care has on outcomes, leading to low value services being delivered.(91) Outcomes that matter to patients are impacted by several factors. (see Figure 6)

Figure 6: Factors that can impact health outcomes from clinical care (modified from ref 93)



Prior health status before receiving care, which is determined by the patient’s environment and health related behaviours, will impact treatment success and health outcomes. Clinical care is delivered through services (e.g., time spent caring by nurses and specialists) and healthcare inputs, such as medicines and medical devices, supported by information technology, human capital and infrastructure.

Even if a provider seeks to deliver the best clinical care, some variation in clinical outcomes cannot be easily accounted for by the provider, given the potential for systemic error (e.g., not following clinical guidelines) and random error.

Factors besides care will also impact outcomes, and the magnitude of these impacts will vary across care types. The environment within which a patient lives not only impacts health status before receiving

care, but also health outcomes after treatment. Similarly, access to formal and informal care will impact outcomes independently of clinical care, particularly for older people with multiple chronic conditions. Potentially unidentified health behaviours, such as the patient's ability or willingness to follow professional advice after clinical treatment, or beliefs that run counter to health advice, can substantially impact outcomes. ACOs in US states have expressed their concern that some patients do not follow healthcare advice despite it aligning with best practice.⁽⁷⁵⁾ Payers and providers need a thorough understanding of the clinical pathway, and the relative impact of changing provider and patient behaviours on outcomes, to ensure outcome targets are appropriately set. Failing to appropriately risk adjust patients within a value-based payment model could create misleading outcome measures, leading to poor payer decisions, poor care delivered by providers and clinicians, and a growing distrust of the outcome data.⁽⁹²⁾ This will also devalue the value-based payment model.

Identifying a causal and attributable relationship between clinical action and a chosen outcome indicator will require good, accessible and interpretable data. Care pathway characteristics and measurement error will impact the probability of identifying a causal and attributable relationship between provider actions the chosen outcome indicator (see Figure 6).

Some providers may sit within a care pathway that has limited impact on outcomes relative to other collaborating providers. The more complex the care pathway the more challenging it will be to separate provider actions from other factors when attributing outcomes. For example, outcomes that matter to patients with mental ill health may include getting back into the workforce, yet that may depend on their skills and experience, economic climate, where they live and access to public transport.

Measurement error will also make outcome measurement noisy. Random error in the statistical analysis could wrongly attribute outcomes to care, while limitations in sampling patients and measuring outcomes could create systematic error.⁽⁹³⁾ Measurement could be confounded by not accounting for all factors that impact outcomes when attributing care, leading to biased outcome results. This error type will be more prevalent when patient outcomes have multiple comorbidities.⁽⁹³⁾ Biased outcome results would create unfair compensation, with some providers potentially not receiving funding even though outcomes were achieved.⁽⁹³⁾ Providers may become aware of inherent biases within outcome measures, identifying an opportunity to select patients that have more favourable outcome measures, such as less complex patients, leading to inequitable access to care.

Enablers for value-based payments

One primary challenge implementing voluntary value-based payments is motivating providers to participate. Providers balance up the additional financial risk with their ability to identify and manage that risk, and want to be compensated accordingly for accepting additional financial risk. They may recognise they have limited ability to change their

Motivating providers

One barrier for successful implementation of value-based payments is motivating providers to participate.⁽⁸⁹⁾ Most value-based payments implemented in the US are voluntary, so many providers choose not to participate. Voluntary models allow providers to self-select, with providers likely to receive a bonus often the most willing to participate. This increases the cost of the alternative payment model compared to mandatory programs,⁽²⁷⁾ can bias evaluation results,⁽⁶⁴⁾ and limit potential savings.⁽⁹⁴⁾

Providers consider several factors when deciding to participate within a value-based payment model. This includes:

- future short and long run profit;
- tolerance for risk;
- access to financial capital;
- organisational capabilities; and
- perceived benefit to care deliver and patient health.⁽⁹⁵⁾

Some providers are reluctant to take on additional risk associated with value-based payments or do not have the resources to

business and care models, or limited ability to influence health outcomes given their roles and responsibilities within the care pathway. Experience in the US suggests participation in value-based payment models should be made mandatory when possible.⁽²⁴⁾

invest in clinical and business changes required to meet targets. Incentives may be too small to compensate for the additional risk, marginal cost increases, or upfront investment.^(89, 96) This can limit participation in voluntary models and limit effort in mandatory models.⁽²⁷⁾

In the US, some providers are not comfortable with sharing necessary data with other providers given they operate within a competitive market.⁽²⁵⁾ This limits their ability to integrate with other providers within a shared savings model, for example.

Disagreements between payers and providers in establishing a bundle of services and eligible patient cohort can also reduce participation rates and the financial viability of bundled payment models.⁽⁵¹⁾

Some providers will be reluctant to participate due to suspicion.⁽²⁴⁾ Benefits from generous fee-for-service models, along with delays in receiving bonuses, have stifled adoption, allowing providers to observe initial outcomes before deciding to commit.⁽²⁷⁾ This suggests payers should encourage a shift towards

value-based payments by offering rewards but also discouraging continued use of fee-for-service models by reducing fees.(24)

Another barrier is the administration complexity of value-based payments compared to fee-for-service models. Many providers have difficulty understanding a proposed value-based payment model, including the potential impact of the incentive structure on their revenue and costs. This can be exacerbated by changes to the model midway through the pilot period.(27)

Some health care organisations shield their providers from a value-based payment model incentive structure to minimise complexity, effectively reducing the incentive to change provider behaviour.(27) Some argue that alternative payment models in the US should reduce the administrative burden on providers by investing in technology that can pull information directly from electronic medical records.(24) Long term contracts (e.g., five years) and multi-year benefit attribution would allow providers to match potential benefits to their required investment to meet funding model objectives.(24)

Implementation enablers

Implementation status varies considerably across and within systems that have sought to implement VBHC, such as Massachusetts (US), Netherlands, Norway, and England (UK). This reflects different approaches to VBHC. The US has implemented VBHC mostly through introducing alternative payment models to fee-for-service, while more publicly funded healthcare systems such as those within

While it may be initially difficult to get providers to participate, continued exposure to value-based payment models could help. The likelihood of providers participating in a value-based payment model increases if providers have already had exposure to incentives created through funding and public reporting.(95) Similarly, US states considered prior provider experience with commercial ACOs when deciding to pursue an ACO model.(75)

Despite this, voluntary models are unlikely to attract all providers. Evaluation of the first 10 years of alternative payment models in the US suggests mandatory participation should be used where possible given its advantages, including:

- simplifies the adoption of payment models and produces fairer competition;
- limits the ability of providers to select patients based on health risks;
- are the lowest cost option for bringing in late adopters; and
- benefits evaluation results because there is greater control over when providers adopt.(24)

Europe have focused on better care coordination and integration, along with better patient outcome measurement.(89) Enabling factors for VBHC implementation include strong government leadership, a focus on information technology improvement, and instituting a VBHC culture among providers.(89)

Value-based payment models should align with broader health system objectives.(51) It is a natural progression to introduce value-based payments within a system already moving towards value-based care, but implementing value-based payments will be challenging for a system that is not. The role for government is to clarify the objectives of moving towards value-based payments and undertake an informed dialogue with providers, clinicians, patients and other stakeholders.(51)

No published studies have quantitatively assessed the impact of implementation characteristics on successful value-based payment models. Even within pay for performance models, which has a large body of evaluation literature, relationships between design characteristics and effectiveness are weak. Payers must develop clear objectives, based on the health care system context, structural limitations of providers, and policy maker needs, with performance targets and financial incentives agreed between payers and providers.(60)

Some studies provide insights from a retrospective analysis of a value-based payment model introduced in the Australian healthcare system,(85, 97) but most offer a prospective analysis, based on secondary research, offering suggestions on how to implement value-based payments.(98-102) Similarly, studies have sought to draw implementation lessons from value-based payments in Europe and the US.(24, 51, 103-106)

Implementing a program to improve healthcare quality should occur across four levels, including the larger system / environment, healthcare organisation,

individual teams, and the individual.(107) Implementation science offers several theories and frameworks that guide how to implement a complex and multifaceted healthcare program. The Consolidated Framework for Implementation Research (CFIR) is one such framework, synthesising existing theories and constructs to guide implementation scientists on what works where and why across multiple contexts.(108)

CFIR is well suited to guide implementation of value-based payment models. It consists of five domains that should be considered when implementing, including:

- **Intervention characteristics:** Consisting of 'core' components and 'adaptable' elements, structures and systems.
- **Outer setting:** Consisting of economic, political and social context within which the provider operates.
- **Inner setting:** Consisting of structural, political and cultural contexts within which the implementation will transition through.
- **Individuals:** Consisting of cultural, organisational, professional and individual mindsets, norms, interests and affiliations that impact choices within the implementation pathway.
- **Implementation process:** Consisting of preparation, action and ongoing evaluation.(108)

Each CFIR domain includes a set of constructs that outline essential factors to consider when implementing a complex and multifaceted healthcare program. There are 26 constructs in total, with three constructs having a set of sub-constructs. Implementation may not be sequential through each domain and the

demarcation between domains and between constructs may be fuzzy. Understanding the perceptions of providers, clinicians, patients and other stakeholders will be crucial for successful implementation.(108)

Implementation enablers for value-based payments in Australia, categorised into CFIR domains and constructs are presented in Appendix 2. The definition of each construct was assessed and adopted for implementing a value-based payment model in Australia, as recommended within the CFIR. It assumes that government is leading the implementation, which is typical of most value-based payment models internationally.(89). Enablers were drawn from a rapid review of the prospective and retrospective literature on implementing value-based payment models.

Appendix 2 can be used to guide implementation of a value-based payment model, although not necessarily completely as each construct should be considered in light of the implementation context.

Overall, implementing a value-based payment model must sit within a broader reform process, be aligned with other healthcare system policies, and contribute towards a program of work that seeks to develop ongoing iterative improvements in value-based payment models. Key components of an implementation plan should include the following.

- Shared purpose among government, providers, clinicians, patients and stakeholders for introducing value-based payments.
- Alignment with other healthcare policy and proposed reforms.

- Strong evidence base on the potential for value-based payments to improve outcomes and reduce expenditure.
- A stakeholder engagement plan that seeks to consult widely and inform on progress and evaluation.
- Promotion of networks among providers and the broader healthcare, academic and information technology environment.
- Employees of providers (clinical and other) willing and capable of changing business and care models to improve outcomes and reduce costs.
- Access to timely and high quality cost and outcome data for government and providers that can be easily shared in a safe and secure manner.
- Intrinsic and extrinsic motivation for individuals to operate within a value-based payment model.
- Support from government to cover upfront transition costs for providers and to help transition their business and clinical models.
- Strong executive and clinical leadership, with organisational capacity to manage change across providers and within.
- Strong evaluation and learning culture, with a continuous improvement model such as formative evaluation feedback loops.

A roadmap for scalable value-based payments

Australian healthcare policy has focused on reorganising models of care. More recently, this includes an attempt to reduce low value care funded by Medicare. While some Medicare codes have dropped off, and others have been created, no discernible expenditure savings have resulted.

State, territory and federal governments have neglected to harness financial incentives to improve value. The long term health reform policies outlined in the Addendum to the National Health Reform Agreement (2020-25) represent the first step to correcting this

Current policy direction

Rudimentary value-based payment models have been explored in Australia with little success. The approach by governments has been piecemeal, with little reflection on the broader policy, information technology, data needs and cultural support required to successfully implement a value-based payment model. Financial incentives have been weak and governments have prioritised system redesign over funding reform to improve outcomes.⁽⁶⁸⁾ Integrated care models implemented to improve value have been limited in scale and scope, and have failed to employ financial incentives to change business and clinical care models.⁽¹⁰²⁾

The Addendum to the National Health Reform Agreement (2020-25) clearly states that the Commonwealth and States are jointly responsible for determining funding policy and working together on policy decisions that

improve value. Governments have agreed to reorganise healthcare funding around value and outcomes, and to enhance data collection, although the timing for deliverables between these two reforms are somewhat misaligned. The likelihood of developing a program of successful value-based payment models will be substantially greater if state, territory and federal governments develop a structured and supportive policy and institutional framework around the intent to trial and evaluate multiple value-based payment models nationally.

impact each other's responsibilities. They are also responsible for managing other changes that will support implementing value-based payments, such as collecting and providing patient level data.⁽²⁸⁾ Commitment by the Commonwealth, states and territories to reform their healthcare systems to pay for value and outcomes, as outlined within the Agreement, is the first step towards implementing value-based payment models.

The Long-term Health Reforms Roadmap that accompanies the Agreement outlines a five year plan, starting in 2021-22 with removing legislative, regulatory and technical barriers, developing a funding methodology for public hospital funding, review data linkage, and pilot projects for feedback.

The objective is to trial funding and payment reforms at a program level by 2024-25, along with improved data collection, governance and sharing processes.

Implementation of the Roadmap is delayed due to healthcare systems needing to respond to the COVID-19 pandemic. It is unwise for the Commonwealth, state and territory governments to try and achieve their stated objectives within the compressed timelines.

Implementing a value-based payment model at scale is complex and multifaceted, requiring careful planning and system preparation that takes time. Instead, this delay provides an opportunity to reflect upon and potentially amend the pathway to implementation and the objectives outlined within the Roadmap.

Recommendations

Develop a cohesive national vision and ambitious national plan for value-based payment integration

Recommendation 1

State, territory and federal governments should develop a cohesive national vision and ambitious 10 year national plan to shift healthcare funding towards value-based payments. The plan should be developed in consultation with other stakeholders to include specific and measurable expenditure and outcome objectives. It should align with the Addendum to the National Health Reform Agreement (2020-25) long-term health reform principles and other state and territory healthcare policy directions. It should seek to trial and implement value-based payment models nationally, through coordinated activities within states and territories.

Implementing a value-based payment model will require significant realignment of government and healthcare system resources. Providers will need time to learn how to appropriately respond to a value-based payment model. Siloed implementation of value-based payments in states and territories may result in inefficient investment in trials, missed opportunities to incorporate learnings in subsequent models, and delay scalability across the national healthcare system. A long term commitment to coordinating, piloting, investing in, and evaluating value-based payment model trials across all states and territories would expedite iterative improvements over time. A national plan would better align value-based payments with

payments with other long-term health reform principles outlined within the Addendum to the National Health Reform Agreement (2020-25) and reforms towards value-based care in states and territories. Funding model reforms are symbiotic with other health policy directions, so understanding and nurturing those relationships will be important to optimise the response to health challenges.

Currently there is some misalignment within the proposed Long-term Health Reforms Roadmap for the purpose of introducing value-based payments.⁽³⁰⁾ For example, the Roadmap seeks to trial funding and payment reforms at a program level between 2021-22 to 2024-25, yet a national approach to data governance arrangements, structures and process is not due to be completed until 2024-25 within the Roadmap.

A national plan would help better integrate Long-term National Health Reforms around value-based payments, along with other state and territory healthcare policy. As healthcare policy is inextricable linked to politics,⁽¹¹¹⁾ a national plan agreed by all governments can better safeguard the iterative shift towards value-based payments as it moves through model failures and success. It would send a strong signal to providers that all governments are committed to value-based payments, helping providers predict change and incentivising them to make necessary investments.⁽⁹⁴⁾

Create an independent national payment authority

Recommendation 2

The Australian Government should develop an independent national payment authority specifically designed to execute the 10 year national plan to shift Australian healthcare funding towards value-based payments. The independent authority would construct innovative funding models, develop a process for promulgating reform direction, coordinate implementation activities, support government and providers and evaluate value-based payment models across Australia, working in partnership with states and territories, local health networks, primary health networks, along with private payers seeking to introduce value-based payments, such as private health insurers. It would represent a 'one stop shop' to help providers transition to value-based payments.

A unified approach to value-based payment innovation, development, implementation and evaluation is required. The current fragmented structure of government in the Australian healthcare system is not fit for purpose. State, territory and federal governments often quarrel over health policy direction, with roles and responsibility somewhat blurred, and policy levers to systematically transform healthcare held across jurisdictions.⁽¹¹²⁾ This is particularly the case around funding, where cost shifting is endemic and governments face substantial barriers to accessing data for their own policy purpose.

State, territory, and federal governments will need to coordinate their healthcare systems, policies, information technology infrastructure, and workforce around value-

based payments. State and territory governments will need to relinquish some autonomy to reduce potential duplication of effort and inefficient learning associated with trialling models in isolation.⁽⁹⁹⁾ Given many value-based payment models will replace some component of Medicare, and primary health networks are likely best suited to manage chronic disease bundled payments,⁽¹⁰²⁾ it seems reasonable that an independent national payment authority is led by the Australian Government with significant input from state and territory governments.

An independent national payment authority would be best placed to develop a close working relationships across independent statutory authorities already working with the Department of Health and Aged Care, including:

- Independent Health and Aged Care Pricing Authority;
- National Health Funding Body;
- National Health and Medical Research Council;
- Australian Digital Health Agency;
- Australian Commission on Safety and Quality in Health Care; and
- Australian Institute of Health and Welfare.

If an independent national payment authority was unattractive to the Australian Government, an alternative option is to develop an independent payment office within the IHACPA, which reports into the CEO of IHACPA and the Minister for Health and Aged Care. The Office would benefit from the data

infrastructure, assets, skills, experience and relationships with state and territory governments already within IHACPA.

Other portfolio agencies may be relevant for some funding models, such as the Aged Care Quality and Safety Commission and the National Mental Health Commission. Coordination will likely need to extend to other Australian Government departments that directly influence health outcomes through the support they provide, such as the Department of Social Services, or collect data on factors outside government support that impact health outcomes, such as the Australian Taxation Office (income) and the Australian Bureau of Statistics (population demographics).

State and territory governments will also need to align their policies, departments, agencies and local health networks to implement coordinated national value-based payment models. This will include aligning state, territory and federal government funding for models that fund care spanning primary and acute care. An independent national payment authority would be well placed to operate across all states and territories. For example, that would include alignment with pillars that currently support value-based health care in NSW, including the Agency for Clinical Innovation, Clinical Excellence Commission and Cancer Institute NSW. Agencies established to collect and report on healthcare data, such as the NSW Bureau of Health Information and the Victorian Agency for Health Information, could

positively contribute to the development, implementation and evaluation of value-based payments.

There are several benefits to establishing an independent national payment authority. It allows the state, territory and federal governments to allocate clear roles and responsibility for value-based payment implementation in Australia. The independent national payment authority could specifically focus on leveraging supports across all state, territory and federal health agencies and departments. It would be well placed to champion value-based payments in related healthcare policy dialogue, and efficiently promote learnings and best practice from value-based payment model trials across states and territories.

Importantly, an independent national payment authority could reduce duplication of resources for developing, implementing, evaluating and supporting value-based payments compared to states and territories operating in isolation. It could better harmonise core model components to reduce the likelihood of competing models for providers that operate across jurisdictions. It could represent a 'one stop shop' of knowledge for value-based payment models to draw upon by other organisations, such as private health insurers, and better support providers that are impacted by value-based payment models through consultation, developing and disseminating information and training packages, and provider tools.

Improve data collection, analysis and access

Recommendation 3

The Australian Government should develop a detailed information technology investment and data collection plan specifically designed for value-based payment models. States, territory and federal governments should invest more in standardised collection, analysis, reporting and sharing of patient health and health outcomes data, along with provider cost data, to support value-based payment models. Data should be held in a safe central repository curated by the proposed independent coordinating authority and made accessible in a de-identifiable and secure way to stakeholders and evaluators.

Setting prices to incentive behaviour change will be challenging. Governments must understand the cost structure associated with delivering care and the additional risk a value-based payment model imposes on providers.. Setting an 'incorrect' price will have detrimental effects on provider motivation and participation, potentially leading to model failure. Weak incentives will not change provider behaviour. More concerning, a mismatch between incentives and marginal cost increases can force providers to reduce costs if participation is mandatory. This incentivises providers to skimp on care in areas unmeasured by performance metrics, potentially leading to worse (unmeasured) patient outcomes.

Paying for outcomes that matter to patients will require some risk adjustment. The success of a value-based payment model relies on appropriately measuring value to patients, and adjusting for different patient healthcare risks.

Information technology infrastructure, data analysis skills and access to readily available quality, cost and outcome data is limited within the current healthcare system, and unable to appropriately scaffold a scalable value-based payment model.

While state, territory and federal governments collect a large amount of healthcare and patient data, less is collected on individual characteristics in a routine manner. Access and linking is haphazard, legislation restricts data use, and interoperability is low, which means connecting healthcare data with data on payments, cost and social determinants of health data is problematic. Retrofitting current data collections held by government will be insufficient, and if pursued, will reduce the viability and trust in measured outcomes, allowing providers to 'game' value-based payment models by seeking low risk, high value patients.

Providers and clinicians also have limited data to make near real-time decisions. A value-based funding model must support providers and clinicians to change their behaviours, including sharing information with other providers and understanding patient factors that are expected to impact outcomes. Sharing patient records, discharge summaries, and care plans between primary and hospital care must improve. My Health Record and state based electronic health records must better integrate with payment and cost data, and be easily accessible for providers and clinicians to access practice specific data to help them identify low value care and make appropriate business and care model changes.

Invest in provider education, training and innovation

Recommendation 4

The Australian Government should invest in the development and dissemination of technical support to providers that participate in a value-based payment model. This should include standardised tools to appropriately assess patient health risks, high quality clinical guidelines, identification and dissemination of best practice clinical care, training programs to help providers change business and care models, and platforms for peer-to-peer learning.

Providers will be required to assess the additional financial risk and determine whether it aligns with their risk appetite. Many providers are unlikely to have the capability required to assess this risk because they have no experience doing this within Medicare. They may unwittingly enter a value-based payment model, or choose not to participate, because of their inability to price the additional financial risk. Predicting patient healthcare needs across a pathway will be challenging. Governments need to develop tools that help providers assess their financial risk, and better understand the future care needs and costs of their patients.

There is substantial unwarranted variation in care delivery across Australia. For example, potentially preventable hospitalisations for chronic obstructive pulmonary disease were 18 times higher in the highest area compared to the lowest in 2017-18.⁽¹³⁾ Most variation is due to providers not understanding what best practice looks like, or perverse incentives to increase care volume associated with Medicare. Ensuring providers and clinicians

have access to high quality clinical guidelines could help better align care models towards generating valued patient outcomes and reduce unwarranted clinical variation or inefficient care practices.

It will be necessary to educate and train providers to better manage their business and clinical transformations as they strive to meet objectives within a value based payment model. This is particularly the case in the first few years of a value based payment model, where the provider learning curve is the steepest.⁽⁷⁵⁾

Education and training could focus on developing new skills and relationships to coordinate services within the care pathway, developing new back office and support functions (e.g., data collection and analysis), and helping providers promote and share their values for greater value care with clinicians, patients and other stakeholders.⁽⁶⁸⁾ It could help clinicians better understand how their actions impact health outcomes. Education, training and innovation should be embedded in the continuous learning cycle.

Forums that can help develop a learning community through peer-to-peer learning may also better enable value based payment success. This includes ensuring providers share common language, share a common understanding of care pathways and the factors that impact health outcomes, and have a safe environment and to share data and ideas.^(68, 86) One-on-one technical assistance and learning collaboratives have been offered by US states when implementing accountable care organisations.⁽⁷⁵⁾

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Appendix 1: Key characteristics of alternative healthcare funding models

Value-based	Funding recipient	Model	Description	Australian example	Potential incentive:			
					Quality	Unit Costs	Patient Volume	'Per patient' service volume
Not value-based	Individual provider	Cost reimbursement	Funding is paid (prospectively or retrospectively) based on the cost of delivering services.	Medical training and research.	None	None	None	None
		Historical block payments	Funding is paid in one instalment on a periodic basis based on funding received the period prior. Does not reflect patient need.	Aboriginal Community Controlled Health Services and some smaller regional hospitals.	None	None	Decrease	Decrease
		Fee-for-service	Providers are paid retrospectively per unit of service delivered based on an established price.	Medicare.	None	None	Increase	Increase
		Activity Based Funding	Providers are paid per National Weighted Activity Unit (NWAU) delivered, reflecting effort across multiple services.	Public hospitals.	None	Decrease	Increase	Decrease

Appendix 1: Key characteristics of alternative healthcare funding models (cont)

Value-based	Funding recipient	Model	Description	Australian example	Potential incentive:			
					Quality	Unit Costs	Patient Volume	'Per patient' service volume
Value-based	Individual provider	Pay for performance	Providers are rewarded (or penalised) for achieving (or not) a set performance threshold. Usually blended with other funding models, such as fee-for-service.	Practice Incentive Program for primary care.	Increase	Decrease	Decrease or Increase	Decrease or Increase
		Pay for performance - Best practice tariff	Providers are rewarded for delivering care that aligns with designated clinical best practice.	NSW Leading Better Value Care program	Increase	None	Increase	None
		Capitation – Condition specific	Providers are paid (usually individual risk adjusted) per enrolled patient for managing a specific condition.	Diabetes Care Project (now defunct) and Health Care Homes trial (now defunct).	Increase ¹	Decrease	Increase	Decrease
		Capitation - All health	Providers are paid (usually individual risk adjusted) per enrolled patient for managing all health conditions.	Australian National Aged Care Classification model for residential aged care.	Increase ¹	Decrease	Increase	Decrease
		Capitation - population	Providers are paid for managing a defined population (usually geographically bound)	Primary Healthcare Networks	Increase ¹	Decrease	Decrease	Decrease

Appendix 1: Key characteristics of alternative healthcare funding models (cont)

Value-based	Funding recipient	Model	Description	Australian example	Potential incentive:			
					Quality	Unit Costs	Patient Volume	'Per patient' service volume
Value-based	Shared across providers	Fee-for-service / Bundled payment with shared savings	Providers delivering different services within a defined bundle are reimbursed through fee-for-service up to a cap. Any savings are shared among providers.	None	Increase ¹	Decrease	Increase	Decrease
		Fee-for-service / Bundled payment with shared savings and downside risk	Providers delivering different services within a defined bundle are reimbursed through fee-for-service up to a cap. Any savings are shared among providers. Any payments above the cap are reimbursed to the payer.	None	Increase ¹	Decrease	Increase	Decrease
		Accountable Care Organisations	Providers voluntarily collaborate to be held accountable for the quality and cost of care delivered for an enrolled patient cohort or defined population.	None	Increase ¹	Decrease	Decrease	Decrease

Appendix 2: Implementation enablers for value-based payments in Australia

Domain	Construct	Requirement	Enabler
Intervention characteristics	Intervention source	The value-based payment model should sit within the broader reform direction agreed within the NHRA (2020-25) to shift healthcare towards paying for outcomes and value.	<p>Draw from a national plan agreed by states, territories and federal governments that details how the government intends to shift healthcare towards greater value-based payments.</p> <p>Encourage early debate on model options by undertaking broad consultation with providers and clinicians from the beginning.</p> <p>Promote informed dialogue with other stakeholders, encourage ideas, and share aims and motivation among stakeholders.</p>
	Evidence strength and quality	Providers and clinicians should perceive that a value-based payment can reduce healthcare expenditure and improve health outcomes, without detrimental effects to patients or business models.	<p>Develop a strong evidence base and best practice from successful value-based payment programs.</p> <p>Ensure there is strong clinical involvement and consensus in developing outcome criteria. Seek clinical champions.</p> <p>Ensure providers are aware that the value-based payment model will be evaluated and improved upon over time, or stopped before the trial finishes if success is unlikely.</p> <p>Seek to build early wins within the model to capture enthusiasm and extend motivation.</p> <p>Publicly report evaluation results to promote transparency and further debate.</p>
	Relative advantage	Providers should perceive that the value-based payment provides some advantage to them relative to the incumbent payment model.	<p>Provide a positive incentive for participating in a value-based payment model, while discounting prices within the incumbent payment model.</p> <p>Highlight the potential benefits to private providers from being a 'first mover' on value-based payments, such as greater market share.</p>
	Adaptability	A value-based payment model should be adapted to local provider needs, particularly differences in health service delivery models,	Identify minimum local provider requirements to implement a value-based payment model. This could include IT maturity,

Domain	Construct	Requirement	Enabler
		access to resources, and costs in metropolitan versus rural and remote regions. If provider needs change in response to meeting a health challenge, or the model is unsuccessful, the model should be refined.	<p>ability to change, size of patient population and the ability to form new provider networks.</p> <p>Ensure the model has some flexibility to allow providers to determine their care models to meet local planning needs, where to invest to improve value, and what partnerships to form with other providers.</p> <p>Adapt incentives to provider characteristics to account for differences in quality starting positions, their ability to improve care, and cost differences outside their control.</p> <p>Understand and address the potential competing interests among providers, and between providers and patients, within the model design.</p>
	Trialability	A value-based funding model should be trialled first with a representative subset of providers.	<p>Ensure the trial length is sufficient (a minimum of five years) to enable an evaluation to capture benefits likely to accrue after the initial learning period.</p> <p>Evaluate the model through the trial period, and if likely to be unsuccessful, consider removing or refining the model to improve success before the trial finishes.</p>
	Complexity	A value-based funding model should be as simple as possible. This is particularly relevant at the start of a value-based funding model program as providers will need to learn how to adapt. As provider experience increase, new (more complex) value-based funding models could be introduced.	<p>Develop a clear conceptual model framework that aligns with other healthcare reforms.</p> <p>Understand enablers and barriers to participation.</p> <p>Ensure model parameters are easy to understand and expectations are clearly communicated with providers.</p> <p>Balance model complexity with provider capacity to understand financial incentives, change care models, and the need to learn new ways of operating.</p>

Domain	Construct	Requirement	Enabler
			<p>Support providers through information and tools to better accommodate unavoidable complexity, such as evaluating patient healthcare risk.</p> <p>Ensure risk adjustment methodology is developed specifically for the funding model and tested prior to launch</p> <p>Take an iterative learning approach to value-based payment model design.</p>
	Design quality and packaging	A value-based payment model should be perceived among providers as consisting of a high quality design.	<p>Design the model on all available peer reviewed evidence along with deep consultation with providers, clinicians and other stakeholders.</p> <p>Include transparent criteria on population target, services covered and model objectives.</p> <p>Include a strong evaluation and learning component.</p>
	Cost	A value-based payment model should not impose additional cost on providers unless they are adequately compensated, either through grants or potential rewards for achieving outcomes.	<p>Collect detailed cost data from providers and form a reasonable understanding of the potential change in costs associated with changing clinical care and business models.</p> <p>Provide grants to help providers cover the additional upfront costs associated with changing business and care models while transitioning to a value-based payment model.</p> <p>Ensure the additional administration costs that comes with increased data collection, analysis and reporting from providers is covered either by grants or within the value-based payment model rewards.</p>
Outer setting	Patient needs and resources	A value-based payment model should not incentivise provider and clinician behaviours that are misaligned with patient needs. One objective of any value-based payment model should be to remove barriers to patients having their needs met under the incumbent payment system.	Undertake detailed patient and clinician consultation to understand patient needs, and best practice care barriers and facilitators.

Domain	Construct	Requirement	Enabler
	Cosmopolitanism	A bundled payment or ACO model should ensure providers are either already networked with each other, or provide the capacity and incentivise willingness to network with others.	Promote stronger relationships between providers and university research groups, along with private enterprise that can help improve care, and manage change, such as private health insurance companies, life science companies and information technology companies. Promote stronger relationships with organisations outside the healthcare system that can impact health outcomes, such as community care.
	Peer pressure	A value-based payment model should be design to encourage providers to participate through offering them a competitive advantage compared to their peers that stay within the incumbent funding model.	Engage provider and clinical champions to encourage and motivate other providers to participate in a value-based payment model. Identify and market potential benefits to the provider, clinician and patient from participating in a value-based payment model.
	External policy and incentives	A value-based payment model should be aligned with broader health system objectives, legislation, federal and state accountability relationships, and other ongoing reform.	Map and publicise how the value-based payment model aligns with state, territory and federal government healthcare policy and individual state and territory programs. Address potential gaps or conflict with other healthcare system objectives and policy through model design.
Inner setting	Structural characteristics	A value-based payment model design should reflect the skills and experience, size and maturity of the providers it seeks to include.	Ensure legislation allows flexible design of value-based payment models. Ensure the value-based funding model accounts for heterogeneous providers by setting targets based on a provider's capacity to change its care models and performance.
	Networks and communications	A value-based payment model should promote the continued development of networks among providers and incentivises strong communication between government, providers, clinicians, and other supply side stakeholders within a care pathway.	Develop common language among providers around value and payments by focusing on what matters to patients. Develop a stakeholder engagement strategy that seeks to promote engagement between providers, clinicians and other supply side stakeholders.

Domain	Construct	Requirement	Enabler
	Culture	A value-based payment model must align with the values of providers, clinicians and patients.	<p>Change the culture of providers towards promoting value and help providers change their culture to align individual behaviours around value.</p> <p>Develop education programs for patients to help them better identify and avoid low value care.</p>
	Implementation climate ¹	The value-based payment model will need to fit within a broader perception among providers, clinicians and patients that incumbent payment models used in Australia are not fit for purpose to ensure healthcare system sustainability. Providers and clinicians must perceive this change as a priority and the change must be compatible with their own objectives, such as improving patient health outcomes and ensuring they remain financially viable.	<p>Have clear and credible indicators that show the current care pathway is misaligned with patient needs and preferences, which the value-based model seeks to fix.</p> <p>Seek to intrinsically and extrinsically motivate providers and clinicians to participate in the model.</p> <p>Make the value-based funding model objectives explicit and transparent, and ensure providers and clinicians recognise they are true partners in the change process.</p> <p>Do not rush implementation to fit a political imperative. Ensure providers and clinicians perceive a strong evaluation and learning climate that is regular and ongoing.</p>
	Readiness for implementation ²	Government and providers should be prepared for implementation. Leaders within government and providers should be committed professionally and held accountable for implementation. Government should lead implementation and help providers to change their business and care models to meet model objectives.	<p>Give providers up to one year between final model design and starting to allow them to change business and clinical models, and inform patients.</p> <p>Provide grants that help providers better integrate systems, technology, care and partnerships around value.</p> <p>Provide grants that help providers undertake upfront investment in data analytic capabilities, quality and safety programs, and information technology.</p> <p>Ensure providers are aware of and meet a minimum set of requirements or standards before participating in the funding model.</p>

Domain	Construct	Requirement	Enabler
Characteristics of individuals	Knowledge and beliefs	Individuals should understand why a value-based payment model is being implemented and the objectives it is seeking to achieve. They should believe there is a need to trial new payment models, there is chance of success, and success will bring mutual benefit to all stakeholders.	Build objectives of the value-based payment model around outcomes that matter to patients, highlighting that current funding models do not adequately incentivise these outcomes. Develop communication channels to facilitate better communication between providers and patients to ensure providers are aware of outcomes that matter to patients. Provide a forum for providers, clinicians and other stakeholders to ask questions on why a value-based model is being introduced.
	Self-efficacy	Individuals involved with implementation should believe they can appropriately change their business and care models to meet the incentives within a value-based payment model.	Develop a strategic framework for providers that helps them implement change to meet model objectives. Develop training programs and tools to help provider employees undertake patient risk assessment, deliver best clinical practice, managing business and clinical change, and undertake cost effective investments. Develop peer to peer learning programs to help each other redesign workflows and manage business and clinical model transformations.
	Individual stage of change	An individual must recognise that they will progress through implementation phases as the value-based payment model is developed, adopted and evaluated.	Develop publicly available information on the stages of implementation and the potential changes that could occur within a provider organisation and engage professional and clinical organisations to disseminate this information.
	Individual identification with organisation	Individuals must perceive their relationship with the provider as being collaborative and must be committed to helping the provider meet objectives required to be successful within a value-based payment model.	Ensure the value-based model design seeks input from providers and clinicians. Develop and disseminate information packages to providers that help them explain the value-based payment model and the potential changes to business and care models.
	Other personal attributes	Individuals must be prepared to tolerate ambiguity, change and have a willingness to learn. They must be motivated to ensure their values align with those of the provider.	

Domain	Construct	Requirement	Enabler
Implementation process	Planning	The value-based funding model must be developed in advance and accompanied by a detailed implementation plan that highlights objectives, activities, responsibilities and evaluation criteria.	<p>Ensure strong executive leadership among government and necessary organisational capacity.</p> <p>Remove regulatory impediments to introducing value-based payments and sharing data.</p> <p>Identify and embed required data infrastructure:</p> <ul style="list-style-type: none"> ○ Independent organisation with clear governance and accountabilities to collect, analyse and report data. ○ Data collection tools for capturing patient reported outcomes. ○ Standardised cost and outcome data collection processes, management, and reporting. ○ Data standards quality control protocols. ○ Robust risk adjustment mechanisms. ○ Appropriate data linkages with electronic health records and claims data using a national patient identifier. ○ Better information technology to allow cost, clinical and outcome information to be easily (but safely) captured and shared across providers close to real time.
	Engaging ³	The value-based funding model must be accompanied by extensive engagement activities with providers, clinicians and patients. This should include engaging opinion leaders, formally appointed implementation leaders within government, seeking champions among providers, and engaging external change agents.	<p>Ensure patients and society are informed of potential changes to funding models, care practices and data collection.</p> <p>Develop a stakeholder engagement strategy and undertake external facilitation to outline model objectives and what may change within care pathways. This should include media, conferences, and learning workshops.</p> <p>Ensure special interest groups opposed to value-based payments do not hijack the debate.</p>

Domain	Construct	Requirement	Enabler
	Executing	The value-based funding model must be implemented according to the plan.	Use an independent organisation to work with states, territory and federal government departments and agencies, along with providers, clinicians and patients, to execute the value-based payment model. Seek to make participation in the value-based payment model mandatory for providers.
	Reflecting and evaluating	A strong evaluation culture and learning program should be embedded within the value-based payment model implementation.	Develop a registry, monitoring and reporting program that provides transparent information to government and providers on model adoption, population health and outcomes. Develop a conceptual framework for evaluating a value-based payment model. Embed independent systematic evaluation and public reporting into each funding model to strengthen accountability and transparency. Embed a learning cycle to ensure lessons from one value-based payment model informs the development of subsequent models.

Note: 1. Subcategories include 'Tension for change', 'Compatibility', 'Relative priority', 'Organisational incentives and rewards', 'Goals and feedback', 'Learning climate'. 2. Subcategories include 'Leadership engagement', 'Available resources', 'Access to knowledge and information'. 3. Subcategories include 'Opinion leaders', 'Formally appointed internal implementation leaders', 'Champions', 'External change agents'.

Source: Domains and Constructs are sourced from the Consolidated Framework for Implementation Research (CFIR).(108) Enablers were developed based on a rapid review of the literature on implementing value-based care.(38, 51, 68, 75, 86, 89, 94, 97, 99, 100, 102-105, 109, 110)

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AHHA acknowledge the Aboriginal and Torres Strait Islander peoples as Australia's First Nation Peoples and the Traditional Custodians of this land. We respect their continued connection to land and sea, country, kin, and community. AHHA also pays our respect to their Elders past, present, and emerging as the custodians of knowledge and lore.