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**title** Can we improve the health system with pay-for-performance?

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## Key messages

- Advanced healthcare systems are moving toward greater efficiency, transparency and accountability, and this trend is not likely to change
- There is no single measure that will improve service delivery and patient outcomes, ensure financial sustainability and increase accountability and transparency in a health system
- The jury is still out on whether financial incentive mechanisms, such as pay-for-performance, work as intended and deliver value for money
- The research literature is rich in lessons policymakers need to keep in mind when developing and rolling out pay-for-performance programs:

### Program design

- Build on what already exists
- Formulate a clear business case that defines the objectives of the program in terms of the desired outcomes
- Define performance using absolute and relative thresholds, ensure target can be adjusted over time and attribute credit for performance to participants in ways that foster care across serviced populations and not on a case-by-case basis
- Ensure methodologies for risk adjustment are developed prior to the program's introduction
- Model and evaluate the program carefully before implementation and at regular intervals afterward. Pilot the program before rolling it out in a phased approach
- Consider regional disparities when modelling and evaluating the program prior and post implementation
- Design the program to drive improvement and quality across a range of service providers performing at various levels and not just reward current high performers
- Performance targets must be perceived as being achievable although not without some additional effort
- Allow room for innovation and flexibility

### Data collection

- Ensure strong health information systems are in place
- Use rigorous and verifiable data collection methods and analysis, allow for health service providers to review/correct/supplement data and determine rewards using long-term data trends

### Incentives

- Incentives should be sufficient, equitable and transparent in order to have any effect
- Incentives should reach various levels within an organisation
- Financial incentives are more likely to have the intended effect where there is one single funder

### Stakeholders

- Secure strong political and management support
- Design the program collaboratively with health service providers and professional health associations and organisation

### Keep in mind

- Pay-for-performance can yield small gains at large costs, particularly when targets are set in the absence of a good baseline
- Potential perverse and unintended consequences need to be carefully considered
- Not everything can be measured. Current pay-for-performance programs focus on clinical and organisational measures, which may be relatively easy to measure through objective data or observation, but there are other aspects that are less easily quantified and are only briefly considered in many pay-for-performance programs such as: continuity of care, ease of access to care, strength of the patient-doctor relationship and patient satisfaction

### Beyond pay-for-performance

- Payment systems and financial incentive programs cannot do everything. Many of their key objectives, such as lowering costs, improving quality and driving appropriate change, are goals that are achievable in concert with other policy initiatives
- Invest in outcomes and health service research

## Can we improve the health system with pay-for-performance?

### Introduction

Australia's 2011 National Health Reform Agreement set out the intention of the Australian Government and state and territory governments to work in partnership to improve patient access to services, public hospital efficiency and system transparency by moving toward activity-based funding and away from block funding. The agreement created the Independent Hospital Pricing Authority and other national bodies to classify and assign prices to activity in public hospitals for the purpose of activity-based funding as well as ensuring all activity-based funds transferred to states and territories are used for their intended purpose and meet certain transparency requirements established by federal, state and territory legislation.<sup>1,2,3</sup>

The agreement also described national targets designed to improve access to elective surgery, known as the National Elective Surgery Target or NEST, and to emergency departments, known as the National Emergency Access Target or NEAT.<sup>1</sup> The Australian Government agreed to provide incentive payments to encourage the states and territories to meet these targets.<sup>4,5,6,7,8</sup> It signalled its intention to take a more interventionist approach by paying for performance—making a total of \$1.55 billion available to states and territories to achieve the targets over the eight year life of the agreement.<sup>6</sup>

While the introduction of activity-based funding and the expansion of pay-for-performance mechanisms constituted a major reform to the financing of Australia's public health system, a change in government at the federal level has resulted in a shift away from these arrangements, as evident in the 2014 federal budget.<sup>9</sup> The Australian Government has stated reward funding under the National Partnership Agreement on Improving Public Hospital Services will cease,<sup>9</sup> and from 2017–18, it will index its contribution to hospitals funding by a combination of the Consumer Price Index and population growth.<sup>10,27</sup> Additionally, it will consult with the state and territory governments in order to merge the Independent Hospital Pricing Authority and other related bodies into the new Health Productivity and Performance Commission.<sup>11</sup> At the time of writing, it was not clear what mechanisms the state and territory governments will use to fund the public health system as these changes are implemented.

### Activity-based funding

Activity-based funding is an episodic funding model, and in the Australian context, it is meant to fund public hospitals for the number and mix of patients treated. It takes into account various adjustments as some patients are more complicated to treat and services provided in rural and remote settings do not have the economies of scale available in larger, urban settings.<sup>3</sup> Under this system, a public hospital is allocated a predetermined financial payment for each type of patient episode, as defined by an Australian Refined Diagnosis-Related Group.<sup>12</sup>

## Financial incentive mechanisms

Theoretically, following roll-out of activity-based funding, the next step would be the development of new financial incentive mechanisms, or the expansion of current mechanisms, to drive further quality improvements across the health system. Four common types are as follows:

- *Best practice pricing* uses evidence to determine the best practice for the treatment of a particular condition and then pays health services a set price when best practice care is provided.<sup>13</sup>
- *Normative pricing* uses price to influence the delivery of care such as providing financial incentives to deliver more care in the home, rather than the hospital, for certain conditions.<sup>13</sup>
- *Structural models of pricing quality* links funding to meeting accreditation standards or participating in benchmarking activities or quality registries.<sup>13</sup>
- *Pay-for-performance* uses financial incentives, and sometimes disincentives, to encourage health services to behave in certain ways when undertaking certain activities, such as clinical care and resource use.<sup>13,14,15,16,17,18,19</sup>

## Pay-for-performance

Pay-for-performance is used extensively in business, the public service and now increasingly in education and health.<sup>19</sup> In healthcare, pay-for-performance is widespread in the United States and is at various stages of implementation in many developed and developing countries including the United Kingdom, Canada, New Zealand, Taiwan, Israel and Germany.<sup>13,14,20</sup> It has been used less extensively in Australia.<sup>19,21</sup>

Pay-for-performance programs are attractive to funders because they are meant to stimulate provider performance, improve quality and control costs.<sup>14,17</sup> While the term pay-for-performance is widespread, there is no consensus about the use of terminology internationally and in the research literature to describe an approach where funding is linked to performance. Other common terms include results-based financing, cash on delivery, performance-based financing, performance-based payments, performance-based incentives and performance-based contracting.<sup>15</sup> Regardless of the terminology, pay-for-performance is the most common and studied financial incentive mechanism.

## International experience

The United States was the earliest proponent of pay-for-performance in healthcare. Its Centers for Medicare and Medicaid Services operate a number of pay-for-performance programs. Through their Hospital Quality Alliance Program financial rewards are given to hospitals that publicly report on quality standards; their Physician Group Practice Demonstration program allows general practitioners to share in savings made under the Medicare program; and the Premier Hospital Quality Incentive Demonstration program provides the best performing hospitals with financial rewards and the poor performers with financial penalties. American private sector Health Maintenance Organisations also use pay-for-performance schemes as part of payment contract with healthcare providers.<sup>19</sup>

The United Kingdom has also embraced pay-for-performance programs. Under Tony Blair's Labour government, the main stimulus for health payment reform was wait-time targets and a desire to create a market in healthcare services.<sup>18</sup> Introduced in 2004 and operating as part of the Quality and Outcomes Framework, general practitioners have the potential to receive financial bonuses of up to 25 per cent of total income if they meet certain quality benchmarks—147 in all—for patient care.<sup>17,18,19,22</sup>

In 2008, a program called Advancing Quality, based on the Hospital Quality Incentive Demonstration program in the United States, was introduced in all National Health Service hospitals in the northwest region of England—24 hospitals covering a population of 6.8 million. Its objectives are to save lives, reduce re-admission rates, reduce complications in procedures and significantly reduce the time patients spend in hospital. Compared to the American scheme, it provides considerably larger financial incentives linked to activities, which are directed to a larger grouping of top ranked hospitals.<sup>18,21,23</sup>

### **Australian experience**

Australia's experience with pay-for-performance has been limited but is growing. Medicare's Practice Incentive Program focuses on general practice and provides incentive payments to practices meeting a range of clinical outcomes in areas such as diabetes, cervical cancer screening, asthma, e-health and after-hours access. While the Australian Government has scaled back on some schemes within the Practice Incentives Program, such as eliminating the General Practice Immunisation Incentive scheme, it has expanded in other areas, most recently in Indigenous health.<sup>17,24</sup> The first scheme targeting hospital activity began in 2006 and only rewarded hospitals for providing high quality care to veterans.<sup>19</sup>

The Bundaberg Base Hospital scandal resulted in the government of Queensland introducing the Clinical Practice Improvement Payment, which pays incentives to clinical units within public hospitals for meeting specific clinical benchmarks.<sup>19,20</sup>

Australia's 2009 national partnership agreements and its 2011 health reform agreement greatly expanded pay-for-performance. While most of the national partnership agreements in health have ended,<sup>25</sup> the National Partnership Agreement on Essential Vaccines, which provides reward payments to states and territories that meet agreed benchmarks in maintaining and improving immunisation coverage, is still in effect.<sup>25,26</sup>

The 2011 health reform agreement introduced national elective surgery and emergency department targets and linked \$1.55 billion in federal funding for state and territory public hospital services contingent on performance against these targets over the eight year life of the agreement.<sup>1,6,25</sup> However, in 2014, the Australian government stated it intends to cease reward funding.<sup>27</sup> The future of both the National Emergency Access Target and the National Elective Surgery Target is not clear.

### **What does the evidence say?**

Much of the research and literature on the effectiveness of pay-for-performance comes from the United States. The first systematic review on pay-for-performance schemes, published in 2006 in *Annals of Internal Medicine*, examined existing studies of pay-for-performance schemes operating across a wide range of healthcare areas, for example hospitals, general practice and health

promotion. The authors found that overall there was a lack of compelling evidence that pay-for-performance was effective. This was partly because there were so few studies done in each specific field of healthcare, and results were often mixed even within the one field. Despite this, the authors concluded that there was some evidence that such schemes had a positive impact on the quality of care. At the same time they were keen to emphasise the need to monitor and prevent the many unintended adverse consequences associated with many pay-for-performance programs.<sup>28</sup>

A 2008 systematic review, published in the *American Journal of Medical Quality*, examined the impact of pay-for-performance schemes in American hospitals noting the lack of research in this area and the poor quality of many studies. The authors focused on the three most rigorous studies of hospital pay-for-performance schemes, all of which evaluated the Centers for Medicare and Medicaid Services' Premier Hospital Quality Incentive Demonstration program. Two found that hospitals participating in pay-for-performance schemes had marginally better quality improvement than hospitals outside the scheme while the other study found that pay-for-performance did not improve patient outcomes. The authors argued that more research was needed in this area, particularly because it was not clear whether the benefits of pay-for-performance outweighed the costs.<sup>29</sup>

The most recent and definitive study of the Premier Hospital Quality Incentive Demonstration program was published in 2012 in the *New England Journal of Medicine*. It found no difference in patient outcomes when hospitals in the Premier pay-for-performance program were compared with non-Premier hospitals. Importantly, no difference was found in outcomes even for conditions where incentives were explicitly provided to reduce mortality rates.<sup>30</sup>

The King's Fund published a detailed study in 2012 on healthcare payment systems in the United Kingdom, which also examined the use of pay-for-performance. The authors concluded that it was difficult to come to a firm view on what effect pay-for-performance and other financial incentive mechanisms have had in fostering patient choice, which was one of the arguments used for reforming payment systems in the United Kingdom.<sup>18</sup>

As for pay-for-performance leading to additional activity to reduce wait-times—perhaps its key aim in the United Kingdom—the evidence of the one national evaluation from the University of Aberdeen is not conclusive. The study's authors suggest that the extra activity needed to reduce wait-times would have resulted anyway from the combination of the extra funding that became available after 2000 and the centrally managed targets that were set then heavily prioritised.<sup>18,31</sup>

Other studies examining the United Kingdom's Quality Outcomes Framework and Advancing Quality programs have given mixed results. Preliminary research into the Quality Outcomes Framework suggests medical practitioners do change their behaviour to fulfil program requirements, but this has not necessarily led to improvements in patient outcomes or system-wide quality.<sup>17</sup>

A further 2012 study funded by the National Health Service's Institute for Health Research Studies and published in the *New England Journal of Medicine* examined the Advancing Quality program and provided similarly mixed results. While it found that hospitals participating in the program could demonstrate some improvements in patient outcomes, such as a 1.3 per cent reduction in mortality in the three conditions studied, the study concluded that the program's implementation details and the context in which it was introduced may have an important bearing on the program's outcomes. Additionally, the observed improvements did not lead to improvements in the composite quality

scores for participating hospitals,<sup>23</sup> and this raises some doubts about the authors' interpretation of results.<sup>13</sup>

Taking a more global perspective, a 2013 systematic review, published in *Health Policy*, sought to provide a comprehensive overview of the effects of pay-for-performance in a broad sense by synthesising findings from published systematic reviews in English, Spanish and German language literature. It found that while data are available on a wide variety of effects, strong conclusions cannot be drawn due to a limited number of studies with a robust design.<sup>14</sup>

Regarding the overall effectiveness of pay-for-performance, the authors noted most studies focused on prevention and chronic care provision in primary care, and the results of the few studies with strong design were mixed, justifying the conclusion that there is insufficient evidence to support or not support the use of pay-for-performance. The evidence indicated pay-for-performance schemes were most likely to result in unintended consequences.<sup>14</sup>

Regarding the cost-effectiveness of pay-for-performance, the authors noted most studies used narrow cost and effect ranges looking at small programs, but they found payments were potentially cost-effective.<sup>14</sup>

The authors also noted it appears pay-for-performance schemes in the United Kingdom seem to have narrowed socioeconomic inequalities. However, evidence is not available for other countries.<sup>14</sup>

The evidence on the extent to which non-financial incentives can enhance pay-for-performance is limited. Although many studies found improvements in selected quality measures and have suggested pay-for-performance can potentially be effective, the authors concluded that the evidence seems insufficient to recommend widespread implementation of pay-for-performance. Ultimately, the authors stated more research is necessary on the merit of pay-for-performance and other types of incentives, as well as the long-term impact on patient health and costs.<sup>14</sup>

### **What are the lessons?**

Pay-for-performance programs are meant to incentivise care that is safe, effective, patient-centred, timely, efficient and equitable. While these goals are laudable, very little convincing evidence exists connecting pay-for-performance programs to these goals despite the fact that pay-for-performance, and other financial incentive mechanisms, have been widely applied for many years now.<sup>14,17,23</sup> This leaves a question mark over the value of these mechanisms.

Regardless, Australia and other advanced healthcare systems are moving toward greater efficiency, transparency and accountability, and health policymakers are increasingly reforming payment systems and using various financial incentives programs, most notably pay-for-performance, to try and achieve these goals. While the research evidence cannot confirm the value of pay-for-performance it does outline a number of lessons to keep in mind when developing, rolling out and running a pay-for-performance program:

### Program design

- Build on what already exists <sup>16,21</sup>
- Formulate a clear business case that defines the objectives of the program in terms of the desired outcomes <sup>16,21</sup>
- Define performance using absolute and relative thresholds, ensure target can be adjusted over time and attribute credit for performance to participants in ways that foster care across serviced populations and not on a case-by-case basis <sup>16</sup>
- Ensure methodologies for risk adjustment are developed prior to the program's introduction <sup>13,19,22</sup>
- Model and evaluate the program carefully before implementation and at regular intervals afterward. Pilot the program before rolling it out in a phased approach <sup>13,14,16,20,22</sup>
- Consider regional disparities when modelling and evaluating the program prior and post implementation <sup>13,17,18</sup>
- Design the program to drive improvement and quality across a range of service providers performing at various levels and not just reward current high performers <sup>13,19</sup>
- Performance targets must be perceived as being achievable although not without some additional effort <sup>19</sup>
- Allow room for innovation and flexibility <sup>14,16,18,22,32</sup>

### Data collection

- Ensure strong health information systems are in place <sup>18,22,32</sup>
- Use rigorous and verifiable data collection methods and analysis, allow for health service providers to review/correct/supplement data and determine rewards using long-term data trends <sup>16</sup>

### Incentives

- Incentives should be sufficient, equitable and transparent in order to have any effect <sup>13,14,16,17,19</sup>
- Incentives should reach various levels within an organisation <sup>13,14,16,21</sup>
- Financial incentives are more likely to have the intended effect where there is one single funder <sup>21</sup>

### Stakeholders

- Secure strong political and management support <sup>32</sup>
- Design the program collaboratively with health service providers and professional health associations and organisation <sup>14,16</sup>

### Keep in mind

- Pay-for-performance can yield small gains at large costs, particularly when targets are set in the absence of a good baseline <sup>22</sup>
- Potential perverse and unintended consequences need to be carefully considered <sup>13,14,16,19,21,22,33</sup>
- Not everything can be measured. Current pay-for-performance programs focus on clinical and organisational measures, which may be relatively easy to measure through objective data or observation, but there are other aspects that are less easily quantified and are only briefly considered in many pay-for-performance programs such as: continuity of care, ease of access to care, strength of the patient-doctor relationship and patient satisfaction <sup>17</sup>

### Beyond pay-for-performance

- Payment systems and financial incentive programs cannot do everything. Many of their key objectives, such as lowering costs, improving quality and driving appropriate change, are goals that are achievable in concert with other policy initiatives<sup>18</sup>
- Invest in outcomes and health service research<sup>16</sup>

It is surprising the research literature remains inconclusive on the benefits of pay-for-performance considering the length of time various programs have been in use and studied. Additionally, it could be inferred that pay-for-performance programs have not often achieved their desired goals since the literature is strewn with lessons on what, and what not, to do in order to avoid undesired outcomes. Any further expansion of pay-for-performance within the Australian health system will ultimately be a political decision as an evidence base does not exist indicating these types of programs result in value for money.

### Implications for policymakers

Australia's political leaders initiated a significant reform of the health system in 2007. However,, in 2014, the Australian Government signalled its intention to move away from the agreement it had negotiated with the states and territories. The original reforms were meant to improve service delivery and patient outcomes, to ensure financial sustainability through greater efficiency and to increase accountability and transparency. It is not clear how, or if, financial incentive mechanisms will be used by the Australian Government and state and territory governments to achieve these goals in the future.

This said, policymakers should take a cautious approach with regards to any further financing reform because the research evidence remains inconclusive on the benefits of the various models.

### Activity-based funding

While activity-based funding has the potential to provide more accountable and transparent funding arrangements for hospitals, a 2014 study published in the *Australian Health Review* found that activity-based funding models do not adequately compensate hospitals for the cost of treating serious trauma cases, which could leave hospitals millions of dollars out of pocket.<sup>12</sup> Policymakers need to address these concerns to ensure the Australian Refined Diagnosis-Related Group does not disadvantage public hospitals. If activity-based funding is to be embraced by health services there must be confidence in the funding model.

### Pay-for-performance

The question of whether to expand pay-for-performance programs in Australia remains a political decision because there is not enough high-quality evidence to guide policymaking. Currently, a small number of pay-for-performance schemes exist. There would be substantial costs and risks involved with expanding the use of pay-for-performance that must be measured against the potential quality, safety and financial benefits, which are not guaranteed. Policymakers should carefully consider the lessons found in the literature before expanding pay-for-performance in Australia.

## *Federalism and pay-for-performance*

Federalism in Australia is often cited as a hindrance to its health system, but it can also be a strength. It is based on a mixture of competition and cooperation. Competition fosters greater efficiency, better economic performance and innovation. States and territories are constantly compared and are forced to come up with better and more cost-effective ways of achieving policy outcomes. Their smaller scale of government is also more conducive to experimentation. Effective practices are picked up by other jurisdictions or nationally and failures can be quarantined so that the whole country is not affected. Cooperation is also important because it ensures controversial proposals are given greater scrutiny and legitimacy by drawing all parts of the nation together to face and resolve problems.<sup>34,35</sup>

If the Australian Government and state and territory governments want to expand pay-for-performance they should leverage the benefits of federalism to develop and trial pay-for-performance mechanisms in a cooperative approach. Cooperative federalism would allow states and territories to experiment with pay-for-performance, and other types of financial incentive mechanisms, with the most effective practices being taken up while the least effective are disregarded.

## **Conclusion**

Up until this point, Australian policymakers were implementing a number of concurrent, complementary reforms across the health system, but it is unclear where the reform process is now headed. Regardless of how Australian policymakers decide to structure the mechanics of financing the health system, they should seek a system that will benefit patients, health professionals and policymakers as well as one that will improve public confidence in the health system.

Policymakers should remember there is no single measure that will drive efficiency, quality and safety. The decision to expand pay-for-performance and other types of financial incentive programs in Australia remains a political call because there is not enough high-quality evidence to guide policymaking. Policymakers should carefully consider the lessons found in the literature before expanding pay-for-performance in Australia.

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