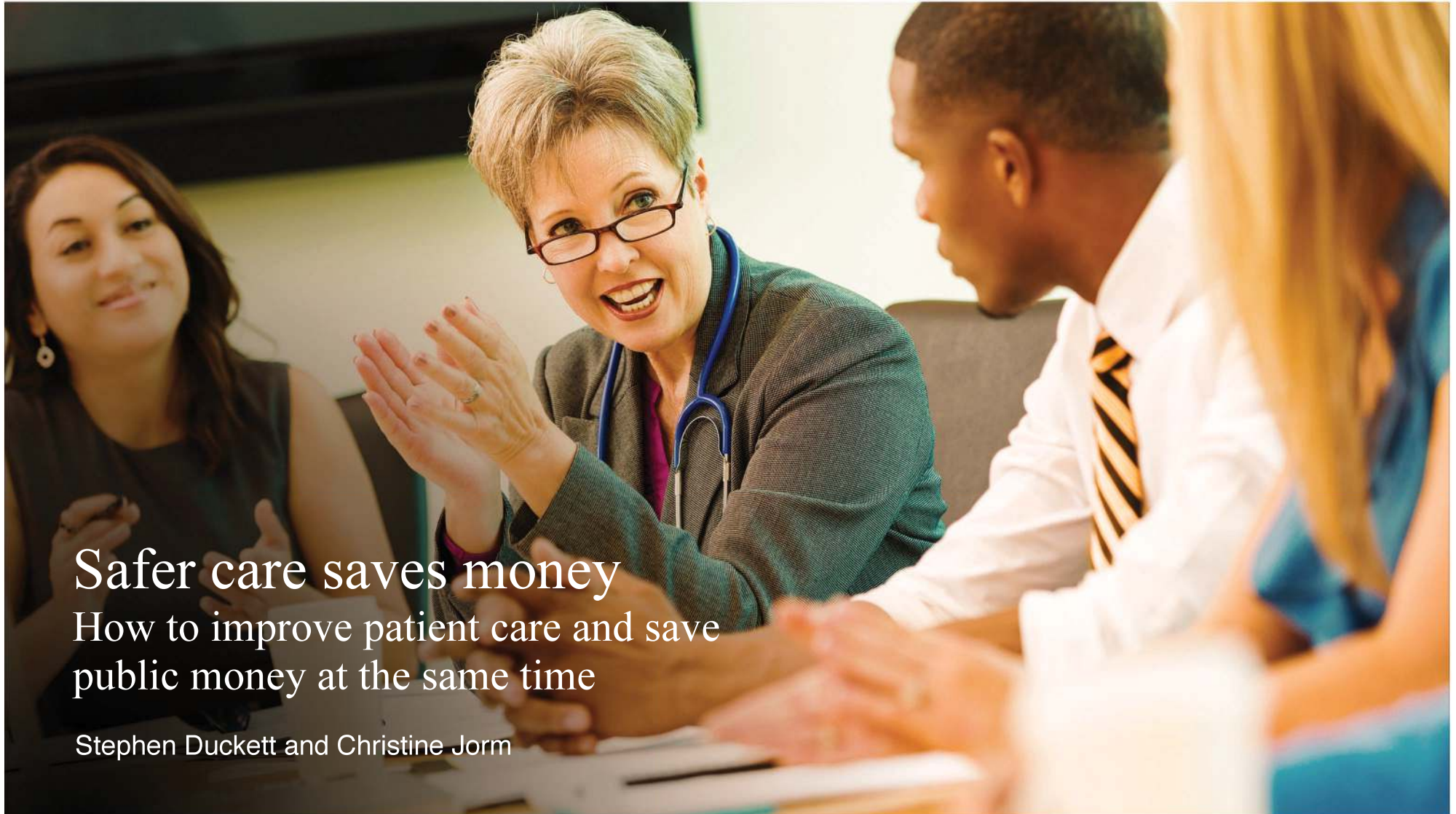


August 2018



## Safer care saves money

How to improve patient care and save public money at the same time

Stephen Duckett and Christine Jorm

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## Grattan Institute Report No. 2018-10, August 2018

This report was written by Stephen Duckett, Grattan Institute Health Program Director, Christine Jorm, Honorary Fellow, Greg Moran, Senior Associate, and Hugh Parsonage, Associate. Jaime Martin and Jessica Smith provided research assistance and made contributions to the report.

We would like to thank the members of Grattan Institute's Health Program Reference Group and Michael Daly, Jill Sewell, Terry Symonds and Michael Ward for their helpful comments. We would also like to thank Jim Pearse for his helpful comments on the Methodological Supplement to this report and Jennie Shephard for undertaking the sentinel event code mapping. The report has also benefited from feedback from presentations on earlier versions.

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This report may be cited as: Duckett, S., Jorm, C., Moran, G., and Parsonage, H. (2018). *Safer care saves money: How to improve patient care and save public money at the same time*. Grattan Institute.

ISBN: 978-0-6483311-1-7

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## Overview

Safer hospital care reduces harm to patients and saves money for taxpayers. A previous Grattan Institute report, *All complications should count*, showed that one in nine patients who go into hospital in Australia suffers a complication. This report reveals the financial costs of those complications: more than \$4 billion a year for public hospitals and more than \$1 billion a year for private. It calculates that if all hospitals lifted their performance to match the best 10 per cent of hospitals, an extra 250,000 patients would go home complication-free each year and the health system would save about \$1.5 billion every year, freeing up beds and resources to allow about another 300,000 patients to be treated.

Public hospitals get extra funding for treating a sicker patient who became sicker because of a complication suffered in the hospital. However, our analysis of Australia's 20 biggest public hospitals shows that in every case, the cost of complications was larger than the increase in funding the hospital received. On average, the extra cost of complications was more than three times the extra revenue from complications.

States and hospitals already have plenty of financial incentives to reduce complications. The problem is that both public and private hospitals need better information so that they can see the opportunities to reduce complications, and the costs that complications involve.

States should give public hospitals – and the public – information on the estimated cost of and revenue from complications. Private health insurers also benefit from lower complication rates: their costs and future premiums fall. Insurers should increase pressure on hospitals and surgeons to improve their safety performance, by making information on complication rates available to their members, either

directly or through GPs, and by using their contract negotiations to drive improved safety performance.

But the current system of national payments that is supposed to specifically encourage hospital safety will not work as intended. It is opaque, concentrates on only a small group of complications, and imposes no effective penalty on states with high complication rates in their hospitals. Hospital managers find the system confusing, and some doctors regard it as a disguised 'money grab'.

The current system of hospital accreditation has also failed: it does not improve patient outcomes; doctors dismiss it as irrelevant, or worse, a waste of their time; it provides no incentives for excellent safety performance; and accreditation reports are kept secret. Practically every significant safety failure in Australian hospitals in recent decades – from Bundaberg in Queensland to Camden and Campbelltown in New South Wales, Bacchus Marsh in Victoria and, most recently, a gas mix-up at Bankstown-Lidcombe Hospital in NSW – has happened in a hospital that had passed accreditation with flying colours.

Instead of 'one size fits all', accreditation should be based on measurable safety outcomes, tailored to each hospital's situation. The emphasis would move from compliance to improvement. Hospitals would no longer be spruced up for a scheduled visit by accreditation inspectors. Instead, surveyors would conduct safety tests without notice, but concentrate on helping hospitals to give safer care. Medical colleges would no longer send trainees to hospitals with poor safety records. And, for the first time, the public would have access to detailed accreditation reports on all hospitals, so citizens would be better equipped to fulfil their democratic role of holding government to account.

## Recommendations

### **States should give public hospitals – and the public – information on the estimated cost of and revenue from complications**

The data provided needs to be comparative and very detailed, so hospitals can see the opportunities they have to improve unit by unit.

### **Hospitals should develop business cases for safety improvement, with assistance from governments**

Costs of safety interventions will vary across hospitals, but governments should share information about strategies that work. States, as system managers, should track rates of complications in public hospitals and hold hospitals to account for their performance.

### **Financial incentives should be tailored and hospital specific**

The current national system of financial incentives for safety in public hospitals should be replaced by a more transparent measurement and reporting of the full range of complications. Health insurers and indemnity insurers should also use incentives, tailored to the specific situation of each hospital.

### **The focus of accreditation should shift from compliance to outcomes and improvement**

The current system of hospital accreditation should be replaced with a system based on engaging with hospitals to help them with their own improvement efforts. The system should use evidence about rates of complications in each hospital to hold hospitals to account for improving their performance on measures relevant to them.

### **Surveyors should conduct safety tests without notice**

Unannounced inspections to address specific issues should be incorporated into a new safety regulation system.

### **Accreditation reports should be published**

State governments should publish detailed accreditation reports on all hospitals, including the names of accreditors.

### **Medical colleges should not send trainees to hospital units with poor safety records**

Hospitals should be given notice when their safety performance puts trainee accreditation at risk.

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## 1 Good care saves money

Stories about advances in health care are often about new technologies – new machines that improve diagnosis and treatment, or new drugs that increase life expectancy. These advances bring benefits, but they also increase health care costs.<sup>1</sup> This creates the impression that better care inevitably costs more.

But there is another way to improve care that actually saves money: by cutting the complication rate in Australian hospitals.

In a previous report for Grattan Institute, *All complications should count*, we showed that one in every nine patients admitted to hospital suffers a complication, and if they stay overnight the figure increases to more than one in four.<sup>2</sup> We showed that if the safety performance of all hospitals was lifted to the level of the best 10 per cent of hospitals, an extra 250,000 patients would leave hospital each year free of complications.

Our previous report addressed the number of complications and the potential to improve patient outcomes and experiences by setting bold goals to reduce all complications. In this report we show that complications come at a financial cost, in addition to the patient suffering. Sometimes the complications can be treated and fixed in hospital, with the consequences limited to some extra discomfort for the patient and perhaps a few extra days in hospital. But sometimes the complications are much more serious. They may require treatment in an Intensive Care Unit and have life-long consequences for the patient. In the very worst cases, complications can lead to the patient's premature death.

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1. Lomas et al. (2018).

2. Duckett et al. (2018).

In this chapter we estimate the financial costs of complications in Australian hospitals: more than \$4 billion a year for public hospitals and more than \$1 billion a year for private hospitals. And, for the first time in Australia, we estimate the savings that could be made by realistic reductions in complication rates: about \$1.5 billion a year. This report focuses on one aspect of quality – namely safety of care. As we pointed out in a previous report, safety is but one component of a high-quality health system.<sup>3</sup>

The second chapter of this report examines financial incentives for improving safety. Financial incentives feature prominently in discussions about how to improve hospital safety but the evidence to support their effectiveness – especially when they are generic incentives applying to all hospitals – is quite weak. We make suggestions for how financial incentives might be better used in Australia.

The third chapter looks more closely at a key non-financial way of influencing hospital performance, hospital accreditation, an example of a governance or regulatory intervention. We identify weaknesses in the current system of hospital accreditation and recommend significant changes to accreditation in the longer term.

### 1.1 Complications cost the health system money

In addition to the harm and cost to the patient (such as due to delayed return to work), poor care costs the health system money, both directly and indirectly.<sup>4</sup> Complications have to be treated, which adds to the costs of care. If a patient with complications extends their stay in hospital, other patients can't be admitted.

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3. Duckett et al. (Ibid., p. 7). Other aspects of quality include being effective, efficient, equitable, timely and patient-centred.

4. Agbabiaka et al. (2017); and Zsifkovits et al. (2016).

In 2014-15 complications added more than \$4 billion (or 13 per cent) to the cost of acute admissions at public hospitals, and more than \$1 billion to the cost of acute admissions at private hospitals.<sup>5</sup> As Table 1.1 shows, the additional cost of some complications is substantial.<sup>6</sup>

For example, in addition to the consequences for the patient, complications involving certain hospital-acquired infections – of which there were more than 9,000 in 2014-15 – add on average an estimated \$14,500 to the cost of the patient’s treatment.

The good news is that most of the very expensive complications are uncommon, and so they don’t always impose a large cost burden on the health system. But they do cause real pain and harm to patients. A US study developed a ‘harm index’ for a handful of patient safety indicators. Two of the seven indicators which scored highest on the patient-oriented harm index (sepsis and pressure injuries), are also in the list of the ten most expensive complications.<sup>7</sup>

However, the costs of less expensive but more common complications quickly add up. Table 1.2 on the next page shows the total costs of each major class of hospital-acquired diagnoses and procedures. It shows, for example, that hospital-acquired infections cost the health system more than \$900 million in 2014-15.<sup>8</sup>

5. We did not have cost data for private hospital admissions and therefore estimated the cost of complications using public hospital data only. We then applied this estimate to the number of complications at private hospitals. The full details of our approach are in the Methodological Supplement to this report.
6. Table 1.1 uses the Classification of Hospital Acquired Diagnoses (CHADx+) to categorise complications; see Jackson et al. (2009a). The ‘Plus’ version of the classification we use includes procedures that indicate that a complication must have occurred. These hospital-acquired procedures are referred to as CHAPx.
7. Romano (2016).
8. Tables 1.1 to 1.2 on pages 8–9 present information on the total costs of complications. We do not claim that all complications can be eliminated. Our estimates of savings, based on achievable targets of reaching the rate of complications seen in the best 10 per cent or 25 per cent of hospitals, is described in Section 1.3.

**Table 1.1: Some complications add more than \$20,000 to the cost of a patient’s care**

Cost rounded to the nearest \$500, acute admissions, 2014-15

CHADx+	Description	Number	Average incremental cost
1.13	Complications of transplants	1,017	\$26,500
1.01*	Invasive ventilatory support	8,429	\$26,000
4.19	Hospital-acquired abscesses	599	\$20,500
3.04*	Thrombectomy	1,653	\$20,500
4.20	Other hospital-acquired infections	9,080	\$14,500
4.03	Sepsis due to Staph	1,507	\$14,000
3.01*	Wound repair	402	\$12,000
4.02	Sepsis due to Strep	796	\$10,500
8.02	Pressure injury, Stages 3 & 4	3,798	\$10,000

*Notes: An asterisk (\*) indicates a hospital-acquired procedure (CHAPx). Instances of ventilatory support during emergency admissions not considered complications. These estimates are sensitive to alternative estimation techniques and model specifications as discussed in the Methodological Supplement to this report. The estimates have been rounded so as not to convey a false sense of precision.*

*Source: Grattan analysis of National Hospital Cost Data Collection and National Hospital Morbidity Dataset.*



**Table 1.2: Hospital-acquired infections cost the health system more than \$900 million each year**

Total cost of complications by major class and hospital sector, rounded to the nearest \$5 million, acute admissions, 2014-15

Major CHADx class		Public	Private	Total	Major CHAPx class		Public	Private	Total
1	Procedural complications	\$355m	\$95m	\$450m	1	Ventilatory support	\$245m	\$175m	\$420m
2	Adverse drug events	\$135m	\$35m	\$170m	2	Haemorrhage/haematoma management	\$280m	\$90m	\$370m
3	Accidental injuries	\$125m	\$30m	\$155m	3	Return to theatre or procedure room	\$40m	\$15m	\$50m
4	Hospital-acquired infections	\$795m	\$155m	\$950m	4	Procedural complications relating to childbirth	\$15m	\$5m	\$20m
5	Cardiovascular complications	\$395m	\$100m	\$490m	5	Nutrition support	\$60m	\$10m	\$70m
6	Respiratory complications	\$170m	\$40m	\$210m	6	Fluid management	-\$5m	~\$0m	-\$5m
7	Gastrointestinal complications	\$280m	\$85m	\$370m					
8	Skin conditions	\$240m	\$55m	\$295m					
9	Genitourinary complications	\$140m	\$30m	\$170m					
10	Hospital-acquired psychiatric states	\$160m	\$30m	\$190m					
11	Early pregnancy complications	~\$0m	~\$0m	~\$0m					
12	Labour and delivery complications	\$45m	\$15m	\$60m					
13	Perinatal complications	\$30m	~\$0m	\$30m					
14	Haematological disorders	\$140m	\$35m	\$175m					
15	Metabolic disorders	\$385m	\$60m	\$445m					
16	Nervous system complications	\$40m	\$10m	\$50m					
17	Other complications	\$305m	\$90m	\$395m					
Total		\$3,735m	\$865m	\$4,600m			\$635m	\$290m	\$925m

*Notes: Instances of ventilatory support during emergency admissions not considered complications. These estimates are sensitive to alternative estimation techniques and model specifications as discussed in the Methodological Supplement to this report. The estimates have been rounded so as not to convey a false sense of precision. May not sum to totals due to rounding. Possible reasons for the negative cost estimate for Major CHAPx 6, Fluid management, also discussed in the Methodological Supplement. Lower costs at private hospitals do not necessarily indicate that private hospitals are 'safer' than public hospitals – differences in cost estimates between private and public hospitals reflect both differences in casemix and coding practices.*

*Source: Grattan analysis of National Hospital Cost Data Collection and National Hospital Morbidity Dataset.*

## 1.2 Complications cost hospitals money

Public hospitals are funded on the basis of their activity. Each patient is assigned to a Diagnosis Related Group (DRG) (a group of patients with similar diagnoses and procedures), and public hospitals are paid the same rate for all patients within a DRG.<sup>9</sup>

Sicker patients are assigned a DRG with higher payment rates. For example, patients with bronchitis or asthma can be assigned to one of two DRGs: E69A, for those with comorbidities and/or complications, and E69B for those without.<sup>10</sup>

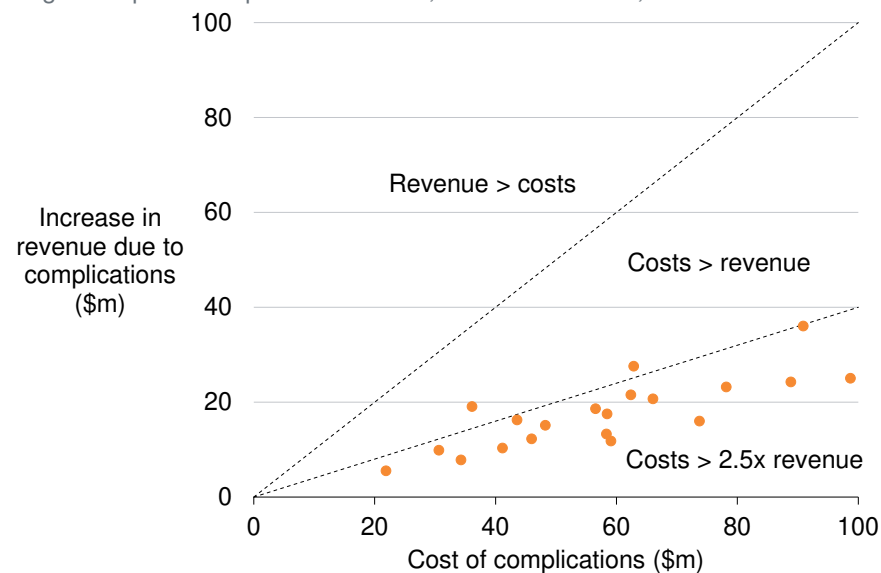
A patient can be assigned to the higher DRG if they are sicker when they come into hospital (as measured by their comorbidities) or because of complications suffered while they are in hospital. A hospital gets more revenue for treating a patient assigned to a higher DRG, even if the patient had to be moved into the higher DRG because of a complication suffered in the hospital.<sup>11</sup>

But our analysis of the estimated cost and funding impact on Australia's 20 largest public hospitals shows that in every case, the estimated cost of complications was larger than the increase in funding the hospital received from those complications (see Figure 1.1). In some of the 20 hospitals, costs were twice the revenue, in others costs were five times the revenue, and on average, costs were more than three times the revenue.<sup>12</sup>

9. There are adjustments for patients with very long stays or from remote areas, and for some other factors. Some private health insurers use a similar method to pay for private hospital care.
10. Later versions of the DRG classification use the descriptors 'major' or 'minor' complexity.
11. But a complication will not change the patient's DRG if they are already quite sick; McNair et al. (2009) and McNair et al. (2010).
12. The ratio of costs to revenue was similar when we analysed all public hospitals in our data set.

**Figure 1.1: Complications cost hospitals more than the revenue they receive for treating those complications**

Largest 20 public hospitals in NHCDC, acute admissions, 2014-15



Notes: See the Methodological Supplement to this report for information about sources and methodology.

Source: Independent Hospital Pricing Authority; Grattan analysis of the National Hospital Cost Data Collection.

The important conclusion from this analysis is that public hospitals already have strong financial incentives to reduce complications. Investments that improve patient safety can therefore also improve the bottom line. State governments should make this clearer to their hospitals. States should give public hospitals information on the estimated cost of complications, and the estimated revenue. That information should be made public. And states should discuss with hospitals, as part of their routine accountability meetings, what strategies hospitals are pursuing to reduce the net cost of complications.

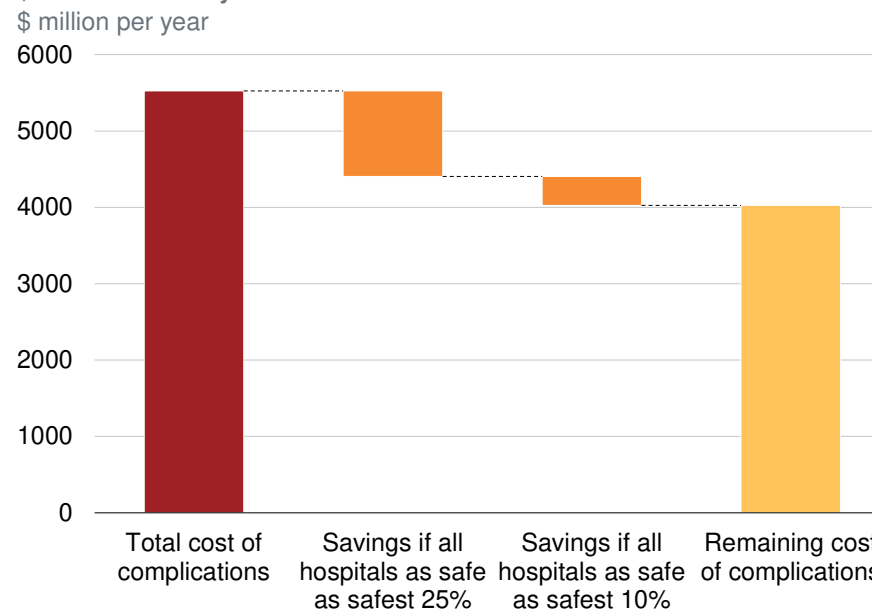
Increasingly, private health insurers are developing programs to provide additional incentives for private hospitals to reduce complications.<sup>13</sup> And, as we recommended in a previous Grattan Institute report, states should provide private hospitals with information about their complication rates.<sup>14</sup>

### 1.3 There are big savings in safer care

As our previous report showed, a patient’s risk of developing a complication varies significantly depending on which hospital they go to.<sup>15</sup> If we could make all hospitals as safe as the safest 10 per cent, we would wipe \$1.5 billion off our health spend every year (see Figure 1.2).<sup>16</sup>

As we showed in our previous report, complications are associated with longer hospital stays.<sup>17</sup> If the \$1.5 billion cost of complications were reinvested in care, about 300,000 additional patients could be

**Figure 1.2: Reducing complication rates could lead to savings of \$1.5 billion each year**



Notes: See the Methodological Supplement to this report for information about sources and methodology.

Source: Grattan analysis of National Hospital Cost Data Collection and National Hospital Morbidity Dataset; Duckett et al. (2018).

13. Rankin et al. (2017).

14. Duckett et al. (2018).

15. Ibid.

16. The savings estimates take into account the severity of the patient; that is, we have taken into account ('risk adjusted') that more seriously ill patients are more likely to have a higher rate of complications.

17. Ibid.

treated.<sup>18</sup> Although we have not estimated costs of strategies to reduce complication rates, this is still a conservative estimate because, as it is based on savings from the admission where the complication occurred, it does not include the cost of any increase in re-admissions as a result of the complication. It also does not include any costs borne by families or carers as a result of the complication.

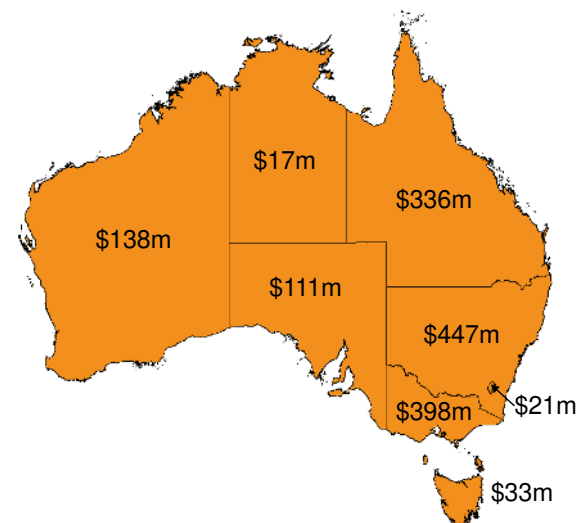
Savings can be made in every state and territory. For example, based on its share of admissions, New South Wales could save \$447 million each year if all hospitals – public and private – in that state achieved the performance of the best 10 per cent of hospitals nationally (see Figure 1.3).

#### 1.4 Complication rates vary significantly

In our previous report we showed large variations among hospitals in complication rates. A patient's risk of suffering a complication also varies significantly within specialties within the same hospital.<sup>19</sup>

Figure 1.4 on the next page shows the variation in the hospital-specific risk of complications for larger specialties in public and private hospitals across Australia. It shows three measures: all complications; complications included on the list of complications designated by the Australian Commission on Safety and Quality in Health Care as 'hospital-acquired complications' (HACs); and complications which have a significant cost impact on the hospital.<sup>20</sup>

**Figure 1.3: There are potential savings in every state and territory from better care**  
\$ million per year



Source: Grattan analysis of National Hospital Cost Data Collection and National Hospital Morbidity Dataset.

18. Assuming the cost of treatment is at the National Efficient Price, and the patients have a resource weight (National Weighted Activity Unit) of 1. Diagnosis Related Group G47B, Gastroscopy of intermediate complexity, has a weight of 0.9897.  
19. We do not have data to assess individual specialist variation, but this is likely to be substantial too: Gutacker et al. (2018).  
20. The latter measure defined as the 42 complications with an average incremental cost greater than \$5,500. About 5 per cent of multi-day patients have one of these complications.

As explained in the methodological supplement to our previous report, we define hospital-specific ‘risk’ as:<sup>21</sup>

- our estimated probability of a complication taking into account the hospital’s performance; minus
- our estimated probability of a complication not taking into account hospital performance.

Further, we define ‘excess risk’ as the difference between the risk of a given hospital and the risk of a particular benchmark – typically either the hospital with the lowest risk (the ‘safest’ hospital) or the hospitals in the lowest decile of risk (the ‘safest’ 10 per cent of hospitals).

In Figure 1.4 we present the former – each dot represents the excess risk of a complication for that 10 per cent of hospitals (*i.e.* decile) relative to the safest hospital. It can be seen that the risk of a complication – after adjusting for patient-related factors – is significantly different in different hospitals, with the ‘any complication’ measure showing greater variability across hospitals than the other two measures.

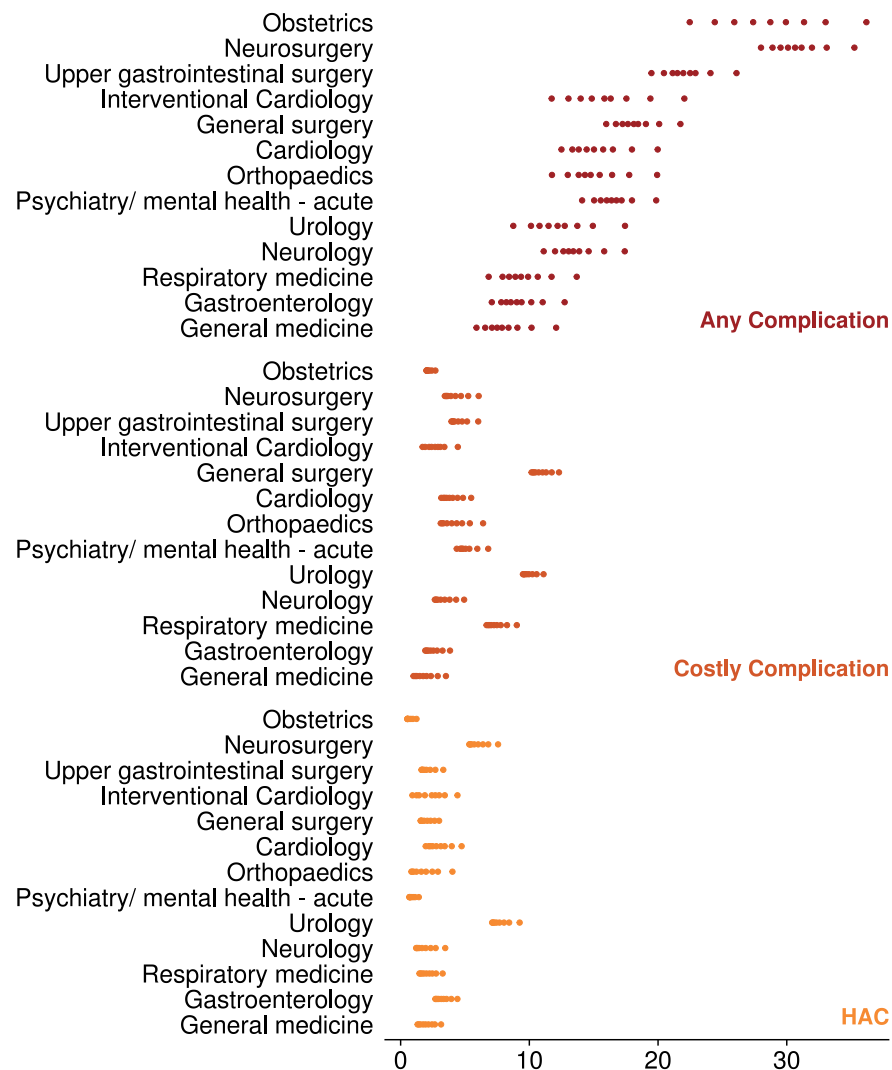
A multiday patient with a 23 per cent chance of a complication on average, will have a 28 per cent chance of a complication in the worst-performing hospitals, but only a 6 per cent chance of a complication in a better-performing hospital. The poorer-performing hospitals should learn from their better-performing peers.

Even among the best hospitals, there is always scope to do better. It is rare for a hospital to be good in everything it does.

The risk of complications varies *within* hospitals as well as among hospitals. Our analysis shows that a patient’s risk of suffering a complication varies significantly between specialties in the same hospital. A hospital may have a good safety record in orthopaedic

**Figure 1.4: The risk of complications for individual specialties varies significantly among hospitals**

Excess risk relative to safest hospital, deciles 1 to 9, percentage points



Source: Grattan analysis of National Hospital Morbidity Dataset.

21. Danks and Duckett (2018, p. 38).

surgery but a bad record in cardiology. Figure 1.5 illustrates how tight the relationship is between the risk of a specialty with the risk of other specialties with the same hospital.<sup>22</sup> The 'box' in the box plot includes half the observed correlations among specialties, with the heavy black line showing the point at which half the correlations are above the line and half below (*i.e.* the median). For most specialties the association of its complication rate with the complication rate in another specialty in the same hospital is very low, suggesting hospital-wide safety initiatives may not be effective.

This has policy implications. It suggests we have to supplement policies designed to improve a hospital's overall performance with policies designed to lift the performance in each specialty in a hospital.

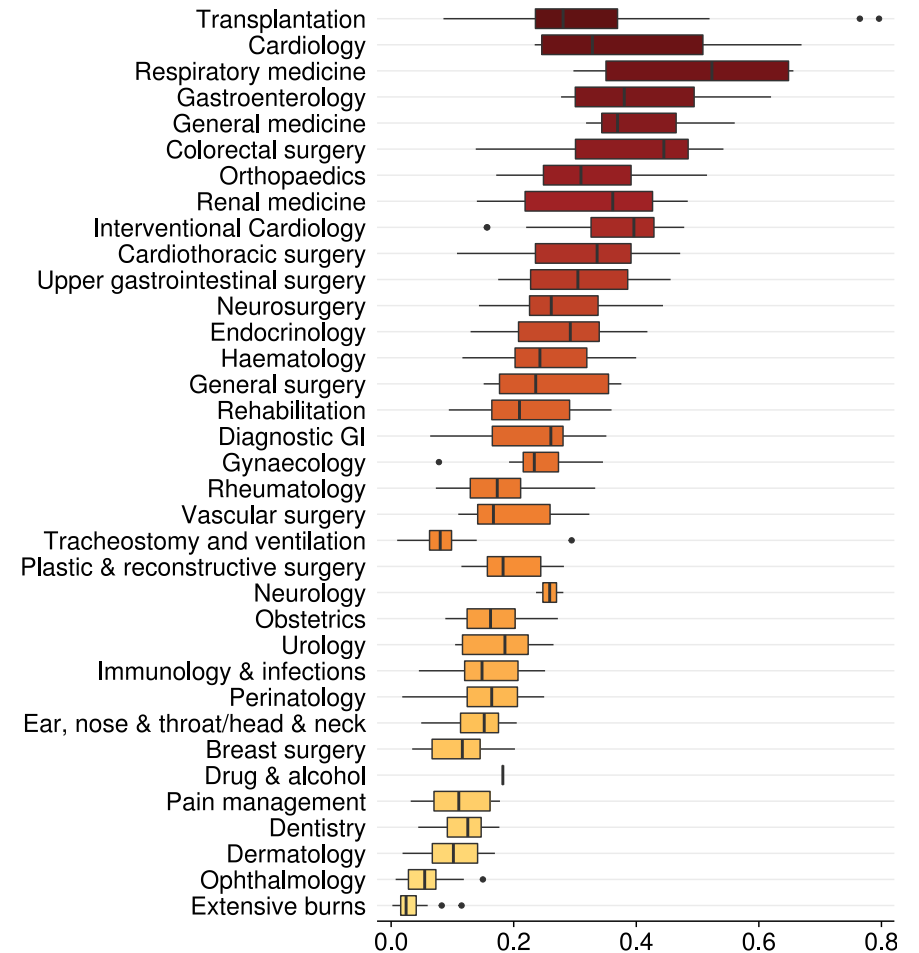
### 1.5 The way forward

The wide variation in complication rates suggests that existing policies on hospital safety and quality are not working well enough. Policy makers recognise this. Hence new financial and governance mechanisms to improve safety and quality are being introduced nationally (most notably new financial incentives), by states and by private health insurers.

The next chapter examines the role of financial incentives in reducing complication rates. And Chapter 3 suggests other ways to assure good care, including more effective accreditation arrangements for hospitals.

**Figure 1.5: The risk of complications in one specialty is only weakly associated with the risk in another specialty in the same hospital**

Boxplots of adjusted  $R^2$ , linear models of risk in given specialty versus other specialties



Source: Grattan analysis of National Hospital Morbidity Dataset.

22. The observations are the correlations among specialties, so the cardiology row shows the range of the correlations of cardiology against each of the other specialties.



## 2 Creating a business case for quality

In health care, the international experience with policies which use financial incentives to reward good quality or penalise poor outcomes is mixed at best. This may be because financial incentives add little to the other incentives already in place to provide good care, including reputational incentives, health professionals' intrinsic motivation, and legal incentives.<sup>23</sup> Alternatively, it may be that the design of financial incentives has been flawed, because they are not tailored to the specific circumstances of a hospital,<sup>24</sup> or the policy has been poorly implemented.<sup>25</sup> As more approaches to financial incentives are evaluated, lessons are being learned about the best designs.<sup>26</sup>

Financial incentives have most impact when the incentive flows through to the relevant clinical department,<sup>27</sup> although ensuring that accountability is appropriately assigned can be problematic.<sup>28</sup> Conversely, initiatives that apply at the hospital level or higher have largely been found to be ineffective.

This chapter shows that the current national incentives for quality do not work the way they are often described. Instead we need more focus on hospital-level improvements. The 'business case for quality' is that hospitals should analyse their own opportunities to improve and the financial benefits of such improvement.

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23. Frølich et al. (2007); and Bevan et al. (2018).

24. Incentives often reward achievement relative to a threshold; more tailored incentives can reward hospital-specific improvements; see Trisolini (2011).

25. Kondo et al. (2016); Milstein and Schreyoegg (2016); and Doran et al. (2017).

26. Pross et al. (2017).

27. Eagar et al. (2013).

28. Greenwald (2011).

### 2.1 Australia's messy national incentives

Following the international trend, Australia is incorporating financial incentives – termed the Safety and Quality Adjustment – into the way the Commonwealth funds the states under the National Health Reform Agreement.<sup>29</sup>

But the national funding arrangements are extremely complex and the financial incentives are not working the way they are commonly described. They affect the total amount the Commonwealth pays the states collectively for hospital care, but there is no direct impact on a state whose hospitals' performance worsens or improves.<sup>30</sup>

The national financial incentives are being introduced in two stages: an incentive based on the incidence of 'sentinel events', which took effect from 1 July 2017, and an incentive based on a longer list of designated 'Hospital Acquired Complications' (HACs), which took effect from 1 July 2018.

#### 2.1.1 The sentinel event incentive

Australia has a long-standing list of sentinel events – rare events which have a significant impact on patients.<sup>31</sup> These are sometimes called 'never events', on the basis that they should be preventable if hospitals follow standard practices on, for example, precautions to avoid surgery being performed on the wrong part of a patient.<sup>32</sup> But it is increasingly

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29. Council of Australian Governments (2017).

30. See Duckett (2017). Appendix A describes how the Safety and Quality Adjustment works.

31. Duckett et al. (2018, p. 14).

32. Lembitz and Clarke (2009).

recognised that even the best systems cannot entirely eliminate such catastrophic outcomes.<sup>33</sup>

About 100 sentinel events are reported through specific reporting systems in Australia every year. Substantially more sentinel events – about 360 each year – are reported in routine data, even though the diagnosis or procedure codes in the routine data sets cannot detect all sentinel events.<sup>34</sup>

Essentially the distribution of sentinel events is random: there is no evidence they occur in any hospital more frequently than any other hospital.<sup>35</sup> It is difficult to see the logic of financial penalties for sentinel events, given they are uncommon – even when measured in the routine data set rather than the specific incident report approach adopted by the states and Commonwealth – and they are random.

However, given the catastrophic nature of sentinel events, their occurrence should not be ignored. Our point here is that a financial incentive is not the best way to reduce sentinel events, nor deal with their consequences. Governance interventions, such as requirements for external review or reporting, are likely to be at least as effective in ensuring appropriate attention is paid to these tragic events.

### 2.1.2 The HACs incentive

The second component of the Safety and Quality Adjustment is based on the list of designated HACs. The list represents only a small subset of all complications – about 10.7 per cent of patients have

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33. I. K. Moppett and S. H. Moppett (2016); and Pandit (2016).

34. We use the approach pioneered by Jackson et al. (2009b), with the codes updated by a co-author in that study, Jennie Shephard. The codes used to identify sentinel events are listed in the Methodological Supplement.

35. The distribution of sentinel events roughly follows a negative binomial distribution as a model for an overdispersed Poisson process.

a complication but only 1.7 per cent of patients have complications designated as HACs.<sup>36</sup>

An incentive can have the desired effect only if decision makers know about it so they can respond to it. The HACs rate can only be calculated after coding is complete and the risk-adjustment calculated. An inherent lag would not be an issue if a hospital's performance on the HACs measure was relatively stable. But it is not. The evidence shows that a hospital's performance in terms of its rate of HACs in one year is only moderately predictive of its performance in subsequent years.<sup>37</sup> In contrast, a hospital's performance in terms of the all complication measure is more stable.<sup>38</sup>

### 2.1.3 The current national approach to incentives adds complexity and creates risks

Australia's national incentive arrangements apply only to *changes* in the rate of HACs, currently around 1.7 per cent of all admissions. Therefore they will probably lead to only trivial changes in the flow of funds from the Commonwealth to the states.<sup>39</sup>

Financial incentives need to be designed carefully to try to prevent perverse behavioural responses, including gaming.<sup>40</sup>

Hospitals currently have an incentive to record all complications, because they stand to gain revenue from the complication, as discussed

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36. For a discussion of HACs, see Duckett et al. (2018, pp. 14–17).

37. We used a rank order correlation. Spearman's  $\rho = 0.39$ , for 726 hospitals, comparing performance in 2013 and 2015. Cohen (1988) describes a Pearson correlation of 0.3 as 'medium'.

38. Spearman's  $\rho = 0.51$ ; Cohen (ibid.) describes a Pearson correlation of 0.5 as 'large'.

39. The impact on individual hospitals will also be small if states pass on the same incentives to their hospitals as contemplated in the Supplement to the National Health Reform Agreement, paragraph 179.

40. Steinbusch et al. (2007).

in Section 1.2. Hospitals and clinicians also face legal risks if they deliberately conceal a complication and do not record it.<sup>41</sup>

The new national penalties now create an apparent incentive *not* to record all complications. However, if a hospital seeks to avoid a penalty by not recording a complication, it will still incur the same costs of treating the patient, but its revenue may be reduced because the hospital would forego the chance of that patient being assigned to a DRG that attracts a higher payment.

Regardless of the design of any financial penalty, the routine data needs to be audited regularly to ensure that what is coded in the data set reflects accurately what happened to patients.<sup>42</sup>

## 2.2 The business case for quality

As we showed in Section 1.2, complications cost hospitals money, even after taking into account the extra revenue a hospital receives for treating patients assigned to higher DRGs. It is therefore in a hospital's interest to reduce complications (see Box 1 for an example).

A 'business case' for quality would emphasise the benefits of safety interventions beyond improved patient outcomes.<sup>43</sup> It would demonstrate financial savings from investing in safer care, and thus challenge assumptions that improving safety harms the bottom line.<sup>44</sup>

But hospitals are hindered in preparing business cases by a lack of easy access to relevant information. The Australian Commission on Safety and Quality in Health Care has developed kits to help hospitals identify effective interventions. But these do not cover all complications, and so each hospital often has to do its own search for evidence about

41. Dyer (2018).

42. Duckett et al. (2017a).

43. Leatherman et al. (2003).

44. Kilpatrick et al. (2005); Reiter et al. (2007); and Swensen et al. (2013).

### Box 1: The case of electrolyte disorders and fluid management problems

In 2014-15 around 72,000 patients (about 1 per cent of all patients) in Australian public hospitals suffered electrolyte disorders or fluid management problems. The combined cost to the public hospital system was \$265 million.

Intravenous fluid therapy is commonly prescribed in hospital for a range of patients and medical conditions. Administering too much or too little, or the incorrect type of fluid (contributing to electrolyte derangements), can lead to complications.

An intervention during surgery, known as goal-directed fluid therapy, has been found to cut the rate of complications in the United States by 17 to 29 per cent. This translates to cost savings per patient of between US\$754 and US\$1,286 (although these estimates do not account for the costs of the therapy).<sup>a</sup>

a. Michard et al. (2015).

effective interventions to reduce the specific complications of relevance to the hospital. Costs of interventions can be quite variable,<sup>45</sup> and so each hospital's business plan will be different.

Some interventions, such as addressing blood stream infections, have been shown to be cost effective.<sup>46</sup> But the evidence about others is weak, further hampering hospitals' efforts to develop sound business cases.<sup>47</sup>

45. Luangasanatip et al. (2015).

46. Nuckols et al. (2016); and Nuckols et al. (2017).

47. Etchells et al. (2012); Zegers et al. (2016); and Carter et al. (2017).

Even if a strong business case can be developed, it may get bogged down during implementation. In New Zealand, for example, a report by KPMG showed that investing an average \$5.7 million a year over ten years could reduce the incidence of pressure injuries in hospitals by up to 70 per cent.<sup>48</sup> This equates to a direct benefit for the health sector of \$7.4 million in the first year, increasing to \$46 million by the tenth. Yet the recommendations have not been systematically translated into clinical practice.<sup>49</sup>

In Australia, state governments and private health insurers need to make hospitals aware of the costs to their bottom line of poor-quality care. Hospitals should have routine access to data on the cost of complications, to help them prepare business cases for quality.

## 2.3 Alternative incentives

Despite the weak evidence base, many jurisdictions have experimented with or implemented financial incentives to improve safety of care.

### 2.3.1 Rewarding adherence to best-practice protocols

Increasingly, incentives for hospitals are being designed to reward adherence to best-practice protocols.

In Australia, the first financial incentive for quality was Queensland's Clinical Practice Improvement Payment, introduced in 2007.<sup>50</sup> It was designed to reward adherence to seven clinically-designed process measures, such as patients with acute ischaemic stroke receiving antiplatelet therapy within 48 hours. But reward payments did not always flow to the relevant clinical departments.<sup>51</sup>

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48. KPMG (2015).

49. Moore et al. (2016); NZ ACC (2017); and HQSCNZ (2018).

50. Ward et al. (2007); and Duckett et al. (2008).

51. Stockwell (2010).

In England, the National Health Service has had a reward payment, known as a 'Best-Practice Tariff', for a decade. It applies to 20 conditions.<sup>52</sup> All hospitals are eligible to receive a base payment, and hospitals that meet specified 'best practice' protocols receive a second, conditional, top-up payment (see Box 2 on the next page). The Best-Practice Tariff requires data not included in the routine data collection, which adds to implementation costs.<sup>53</sup>

The Best Practice Tariff scheme operates alongside a broader 'Commissioning for Quality and Innovation' (CQUIN) scheme, where a provider's funding is partly dependent on their performance against a set of national and locally-determined indicators across a broad range of improvement targets (including indicators on staff health and well-being).<sup>54</sup> Although the CQUIN approach allows some locally-determined indicators, its impact has been assessed as 'disappointing'.<sup>55</sup>

### 2.3.2 Bundled payments

Activity-based funding is a form of 'bundled payment' – for public hospitals at least, there is a single payment which covers the full treatment and care costs of an admission. Increasingly, the dividing line between one admission and the next is seen as artificial. As a consequence, many countries are experimenting with bundling for an 'episode of care' rather than just a single admission.<sup>56</sup>

Currently each hospital admission in Australia is paid for individually, regardless of whether the admission is part of what is really a single

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52. Grašič et al. (2015); and NHS England and NHS Improvement (2016).

53. Although some Best Practice Tariffs rely on existing National Clinical Quality registries. More widespread use of electronic patient records may reduce the cost of the additional collections required.

54. Meacock et al. (2014).

55. McDonald et al. (2013).

56. Kumar et al. (2018).

episode of care – for example a rehabilitation admission immediately after an acute admission – or whether a second admission was attributable to poor care during the first admission.

There is significant variation in use of in-hospital rehabilitation between the public and private sectors in Australia.<sup>57</sup> Private hospitals in Australia use in-hospital rehabilitation more than public hospitals do.<sup>58</sup> This may be because there are strong financial incentives in the private sector to increase admissions. Bundling the initial admission with any associated rehabilitation would encourage more home-based rehabilitation – which is both cheaper and has been shown to produce similar results.<sup>59</sup>

Early experience suggests bundled payments do lead to savings without reducing the quality of care.<sup>60</sup> But designing such systems is difficult. Which hospital, for example, should be paid for the whole bundle of services provided to a patient,<sup>61</sup> and what constitutes a fair payment rate?<sup>62</sup>

Bundling is also often proposed as a way to reduce readmissions, with the assumption that a readmission indicates poor quality of care during the initial admission. But the evidence for that assumption is weak.<sup>63</sup>

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57. Duckett et al. (2017b).

58. Ibid.

59. Coulter et al. (2017); and Naylor et al. (2017).

60. Damberg et al. (2014b); Damberg et al. (2014a); Navathe et al. (2017); Siddiqi et al. (2017); Sullivan et al. (2017); and Chen et al. (2018).

61. For example, the hospital where surgery is performed, or the hospital where rehabilitation is undertaken?

62. J. Sutherland et al. (2012); Cram et al. (2015); Hellsten et al. (2016); and J. Sutherland and Hellsten (2017).

63. Fischer et al. (2014). There may be a 'post-hospital syndrome' (see Krumholz (2013)) which clinicians need to manage.

### Box 2: England's Best-Practice Tariff criteria for fragility hip fracture

Hospitals are eligible for a top-up payment for selected patients (e.g. those aged 60 or over) if:

- a) time from arrival in an emergency department to surgery – or, if the patient is already admitted, time from diagnosis to the start of anaesthesia – is within 36 hours;
- b) the patient is assessed by a geriatrician in the perioperative period (within 72 hours of admission);
- c) fracture prevention assessments (relating to falls and bone health) are completed;
- d) an abbreviated mental test is performed before surgery and the score recorded in the National Hip Fracture Database;
- e) the patient receives a nutritional assessment during admission;
- f) the patient receives delirium assessment using the '4AT screening tool' during admission; and
- g) the patient is assessed by a physiotherapist on the day of or the day after surgery.

## 2.4 Private health insurers and private hospitals

Private health insurers benefit from lower complication rates: their costs and future premiums fall. As we recommended in a previous report, insurers should strengthen incentives on hospitals – and surgeons – by making information on complication rates available to their members, either directly or through general practitioners.<sup>64</sup>

Contracts between private health insurers and private hospitals should contain hospital-specific quality incentives, tailored to the specific current performance of the hospital on safety metrics, and the hospital's potential to improve. Insurers should also consider sharing with hospitals the identified savings from improved quality. This should encourage private hospitals to work more closely with surgeons, obstetricians and other medical staff to identify opportunities to improve the quality of care.

But insurers are constrained in their ability to drive improvements in quality because they are required to make a minimum payment for every hospital admission, regardless of the quality of care provided.<sup>65</sup> Insurers should be given greater power to include evidence-based incentives for improving the quality and safety of care in their contracts with private hospitals.

## 2.5 Will poor hospitals get poorer if incentives are used?

Hospital safety and hospital efficiency do not go hand in hand. Some efficient hospitals – measured by their average cost compared to the National Efficient Price – are bad performers on safety. And some inefficient hospitals rank higher on safety.

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64. Duckett et al. (2018).

65. Termed the 'default benefit'. The payment rate is specified in the Commonwealth's Private Health Insurance (Benefit Requirements) Rules.

Figure 2.1 on the following page shows the hospital-specific risk for medical cardiology patients in various hospitals, compared to each hospital's efficiency rating for medical cardiology.<sup>66</sup>

Financial penalties on poor performers in medical cardiology would hit both efficient and inefficient hospitals.

Efficient hospitals with a high rate of complications have an opportunity to improve on both dimensions – reducing complications will make the hospital even more efficient. But hospitals in the north-east quadrant of Figure 2.1 – with high costs and high complication rates – may struggle even more if they are further penalised. They may need governance interventions and outside help if they are to improve.

Hospitals in the south-west quadrant of Figure 2.1 – with relatively low costs and low complication rates – should be encouraged to share their practices and protocols so other hospitals can learn from them.

A hospital's performance can bounce around, even within a couple of years. This means payers should be wary of imposing penalties based on one year of data.<sup>67</sup> To assess performance fairly, hospitals and payers should look at patterns and trends over time.<sup>68</sup>

## 2.6 Can financial incentives work?

Financial incentives need to be clear and stable. If they are unclear, decision makers may not respond to them. If incentives change from year to year, decision makers may feel that it is not worth the cost of investing in the changes required to respond to current incentives.

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66. As we discussed in Section 2.1.2, we have adjusted for the different complexity of patients; see the Methodological Supplement to this report.

67. We also found a similar issue in looking at rates of potentially preventable hospital admissions; see Duckett et al. (2016).

68. Coory et al. (2007); and Duckett et al. (2007).



Financial incentives for quality should, as far as possible, be seen as directly supporting improvements to quality of care. If they are seen as simply a disguised ‘money grab’, they are likely to be opposed, undermined or gamed.

Financial incentives should also reinforce a hospital’s own quest for improvement. Generic financial incentives may introduce a sense of complacency in hospitals which are performing above the rewarded benchmark, discouraging them from seeking continuous quality improvement across a broad front. Financial incentives thus need to be tailored to the specific circumstances of a hospital. This tailoring will help reinforce hospitals’ own quality improvement processes.

Although all hospitals – public, private for-profit, and private not-for-profit – have to be concerned about costs, the different types of hospitals function quite differently.<sup>69</sup> Financial incentives may be more salient in for-profit hospitals where the return to shareholders is an important motivating factor.

### 2.6.1 Lessons for the design of national incentives

The current system of national incentives for public hospitals – washed through the extraordinarily complex Grants Commission process – is opaque. It will not work the way it has been publicly described and was intended to, and there is no effective penalty on individual states when they fail to provide safe care in their hospitals.<sup>70</sup>

We are sceptical about whether a national system of financial incentives is necessary.<sup>71</sup> But if a system of national incentives is seen as worthwhile, it should be a serious one. The incentives should be

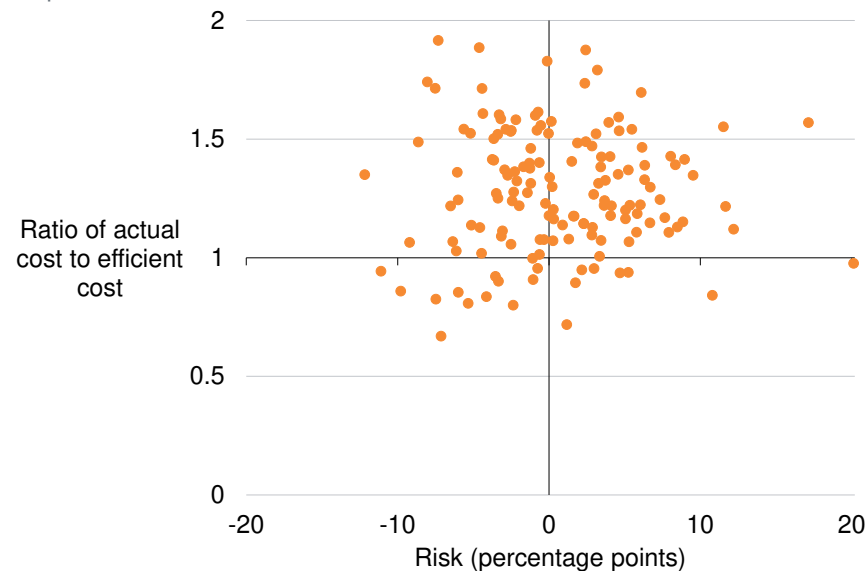
69. There is an extensive literature on the difference in performance and payments; see Herrera et al. (2014).

70. For full detail, see Appendix A.

71. And this despite one of us having advocated financial penalties in the past; see Duckett (2012).

**Figure 2.1: Hospital safety performance in medical cardiology is unrelated to hospital efficiency in that specialty**

Multiday cardiology admissions that do not involve a major procedure, public hospitals in the NHCDC, 2012-15



Notes: We define ‘risk’ on page 13 in Section 1.4. See the Methodological Supplement to this report for information about sources and methodology. A small number of hospitals had cost ratios greater than two and are not shown.

Source: Independent Hospital Pricing Authority; Grattan analysis of the National Hospital Cost Data Collection.

incorporated into a separate National Healthcare Performance Scheme, which might include bonuses and penalties on states for poor access (such as waiting times) as well. It could include additional payments from the Commonwealth if it fails to deliver aspects of the health system for which it is responsible, such as access to residential aged care and the primary care system. To ensure the states with poorer performance bear the cost of their performance, the performance scheme should not be subject to Grants Commission equalisation.

A serious financial incentive would also be based on absolute rates of complications, not just changes in rates.<sup>72</sup>

### 2.6.2 Lessons for states

If states are to provide financial incentives for public hospitals, they first need to ensure the hospitals have the tools to respond appropriately. This means making sure managers and clinicians have good access to data, to compare their hospital's performance with other hospitals. Comparative bench-marking has been shown to be a very powerful way of helping hospitals to identify and respond to improvement opportunities.<sup>73</sup>

As we discussed in our previous report, there may be merit in starting with a smaller improvement target, such as HACs, but this should be clearly seen as simply the first step in a program to reduce all complications.<sup>74</sup>

States' first priority should be, though, to support clinicians in their own quality improvement endeavours, working with them to identify hospital-specific priorities and helping them to respond to safety concerns.<sup>75</sup>

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72. In technical terms, this would mean rates would not be 'backcast'.

73. Bevan et al. (2018).

74. Duckett et al. (2018).

75. This should involve provision of comparative information on all complications. The benchmarking portal developed by the Independent Hospital Pricing Authority

Because states have a direct, hierarchical relationship with public hospitals, the added value of financial incentives may be limited. A financial incentive relies on identifying relatively poor/better performance in a hospital, with the consequence being the financial penalty/incentive. But if poor performance has been identified, governance interventions could equally come into play – and these can be powerful indeed, including dismissing a hospital's board – and financial incentives may not be any more motivating to a public hospital's leadership.<sup>76</sup>

States should also provide data to hospitals – and their clinicians – about the estimated revenue from and costs of complications.

### 2.6.3 Lessons for private insurers

The governance and hierarchical accountability relationships in public hospitals may mean that financial relationships do little to motivate improved safety of care. But this is not the case in private hospitals.<sup>77</sup>

The principal funders of private hospitals are health insurers and their relationships with private hospitals are market based through contracts, rather than organisational or hierarchical.<sup>78</sup> Accordingly, market-contractual strategies, such as financial incentives, will have a stronger role in private hospitals than public hospitals.

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already includes information on HACs, this could easily be expanded to include a broader range of complications data.

76. American economist Oliver Williamson won the Nobel Prize in Economics for his work on the issues associated with different organisational forms, characterised as 'markets or hierarchies'; Williamson (1975) and Williamson (1985). Where a market is in play, such as with private for-profit hospitals, 'high-powered' incentives, where there are direct financial incentives, are more relevant and have a potentially greater role than 'low-powered' incentives where revenue is not at risk; see Hansmann (1980) and Frant (1996).

77. State government relationships with private hospitals are not so hierarchical, although states do exercise regulatory oversight over private hospitals.

78. We are again alluding here to the distinction made by Economics Nobel Laureate Oliver Williamson; Williamson (1975).

The larger private insurers (BUPA and Medibank) already incorporate financial incentives into their contracts with private hospitals. They also provide feedback to private hospitals about their relative performance, so even hospitals not in larger chains can identify improvement opportunities.<sup>79</sup>

All private insurers should develop similar schemes, with government perhaps mandating baseline measures to be included in contracts.<sup>80</sup>

Indemnity insurers – who insure public and private hospitals against the cost of complications – should also consider tailored incentives.<sup>81</sup>

## 2.7 Where to from here?

Financial incentives for quality care are now pervasive internationally. However, that does not mean that all issues associated with their implementation have been resolved.

One risk relates to management bandwidth – if hospital managers focus on particular rewards, they may lose focus on other issues, with the result that performance indicators subject to incentives improve while others languish or deteriorate.<sup>82</sup> The more hospitals and clinicians are directed to focus on metrics chosen by funders, the less they may focus on the specific problems in their own clinical department or hospital.<sup>83</sup>

Our previous reports on hospital safety and quality have emphasised the importance of information. We need to improve the data systems

we have,<sup>84</sup> and we need to provide more information to hospitals and clinicians so they can better understand the problems they have.<sup>85</sup>

This report continues that emphasis. We recommend that hospitals be made aware of how their complication rate hits their bottom line. And we stress the importance of auditing the routine data used in financial incentives, to minimise the risk of gaming.<sup>86</sup>

But alongside improved information flows to hospitals, we need to strengthen the help hospitals get from existing governance and accreditation processes to use that information to improve safety. The next chapter discusses how best to do that.

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79. Rankin et al. (2017).

80. An option for small funds might be to establish an independent body to pool data to ensure adequate sample size.

81. The Victorian Managed Insurance Authority has already developed a scheme which does this – see VMIA (2018) – as have indemnity insurers in the US – see Keohane et al. (2018).

82. Gillam et al. (2012); Eijkenaar et al. (2013); and Vlaanderen et al. (2018).

83. Underhill (2016a); and Underhill (2016b).

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84. Duckett et al. (2017a).

85. Duckett et al. (2018).

86. We discussed this issue in Appendix B of Duckett et al. (2017a).

### 3 A better way to encourage improvement and assure safety

This and previous reports have shown that there is a big gap between the safety of care that is given and which could be given in Australian hospitals.<sup>87</sup> To reduce this gap, the clinical units responsible for the delivery of care need better and more timely data about how their performance compares to their peers.<sup>88</sup>

But providing better data won't be enough. The main national regulatory framework for quality currently emphasises accountability and assurance. It alienates many clinicians; when it ignores their priorities, they dismiss it as irrelevant.<sup>89</sup>

When hospital accreditation was introduced in Australia, it straddled 'improvement' and 'assurance'.<sup>90</sup> Now, it is solely directed toward 'assurance'. This chapter shows why there should be a renewed emphasis on 'improvement'.

#### 3.1 Regulation tells organisations which of their activities is important

Organisations respond to incentives.<sup>91</sup> In health care, what is regulated shapes what hospitals prioritise:

In healthcare systems, the impetus for change can vary from subtle to strident; it can be founded on fear or on hope; built on pressure to conform or an imperative to be distinguished; adopt an attitude of support or challenge; can be tacit or codified; and focused or pervasive in scope. Pressure to change can come from within or

from outside – inducements can take the form of hugs, nudges or shoves.<sup>92</sup>

Healthcare regulation conveys messages about what issues are important and how important they are. There are many regulators and regulatory mechanisms (see Appendix B for a summary). Design of regulation often seeks to ensure that it is risk-based and responsive.

*Risk-based regulation* focuses on the highest-priority risks, determined by assessment of their probability and consequences.<sup>93</sup> There is no attempt to prevent all possible harms. Ideally, low-risk providers are free from the burden of inspection, and inspectors can concentrate on organisations with poor practice.<sup>94</sup> Effective regulation controls risk while identifying important problems and solving them.<sup>95</sup>

*Responsive regulation* assumes the parties being regulated are trustworthy and intrinsically motivated.<sup>96</sup> Most effort is put into encouraging co-operation (persuasion) rather than enforcing compliance. However, a range of enforcement measures of graduated severity must be available ('the regulatory pyramid').

*Really responsive regulation* holds that sensitivity to change is central to regulatory performance:

If regulators cannot adapt to change, they will apply yesterday's controls to today's problems and ... under-performance will be inevitable.<sup>97</sup>

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87. Duckett et al. (2018).

88. Duckett et al. (2017a).

89. Desveaux et al. (2017).

90. Duckett (1983).

91. Frølich et al. (2007).

92. Levesque and K. Sutherland (2017).

93. Beaussier et al. (2016).

94. Griffiths (2017).

95. Healy and Braithwaite (2006); Healy (2013); and Drahos (2017).

96. Healy and Braithwaite (2006).

97. Black and Baldwin (2010).

This approach emphasises changing measures. Timely feedback and use of contemporary data allows assessment of the value of regulation itself:

If regulators cannot assess the performance of their regimes, they cannot know whether their efforts (and budgets) are having any positive effect in furthering their objectives. Nor can they justify their operations to the outside world.<sup>98</sup>

### 3.2 Accreditation is a major part of hospital regulation in Australia

Hospital accreditation formally commenced in Australia in 1974. Initially it was voluntary.<sup>99</sup> Now, the performance of all public and private hospitals is assessed against the National Safety and Quality Health Service (NSQHS) Standards, which have been developed by the Australian Commission on Safety and Quality in Health Care (ACSQHC).

The Australian accreditation scheme consists of five elements:

- Health Ministers endorse the standards and receive information about organisations' performance against them (the topic areas for the standards are shown in Box 3).
- Governments determine which health service organisations are to be assessed against the standards. Governments, as regulators, are advised of the results of assessment. Where the standards are not met, governments take action to ensure the standards are eventually met.
- Organisations implement the actions required to meet the standards, and select an approved accrediting agency to assess their compliance.

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98. Ibid.

99. Duckett (1983).

- Accrediting agencies assess organisations against the standards, and provide assessment data to health departments and ACSQHC.
- ACSQHC develops and maintains the standards and reports to Health Ministers annually on safety and quality.<sup>100</sup>

#### Box 3: Topic areas for the NSQHS Standards

1. Clinical governance
2. Partnering with consumers
3. Preventing and controlling healthcare-associated infection
4. Medication safety
5. Comprehensive care
6. Communicating for safety
7. Blood management
8. Recognising and responding to acute deterioration

Hospitals compile evidence – such as policy documents, committee minutes, training documents and audit results – to show they are meeting the eight standards. Auditors (or 'surveyors') assess a hospital's performance during an accreditation visit of up to five days.<sup>101</sup> They examine documents and interview staff. Auditors may also observe clinical practice and inspect resources, such as signage and personal protective equipment, but they have limited time available to do this.<sup>102</sup>

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100. Greenfield et al. (2015).

101. Or a shorter period if the hospital opted to be assessed on the basis of a number of unannounced surveys.

102. Daly et al. (2017).

### 3.3 Australia's hospital accreditation system is not good enough

A big variation in complication rates between hospitals suggests an accreditation system has failed<sup>103</sup> – and we have shown that Australian variation is wide. Safety failures in accredited Australian hospitals add weight to that suggestion. Practically every significant safety failure in Australia in recent decades – think Bundaberg, Camden, Campbelltown, Bacchus Marsh, Bankstown-Lidcombe – has occurred in a hospital which had passed accreditation with flying colours.

#### 3.3.1 Problems with hospital accreditation systems

Problems with the current accreditation system have been known for decades, despite regular attempts to improve its effectiveness, the most recent coming into effect at the start of 2019. In this section we canvas the problems with accreditation and suggest some tinkering with the current approach to address these specific problems. In a later section we propose a radically different approach to accreditation.

#### Accreditation may not improve patient outcomes

The scant literature provides inconsistent and unconvincing evidence about the overall value of accreditation for improving the quality and safety of patient care.<sup>104</sup> Only one paper has explicitly sought to explore the potential mechanisms by which accreditation might affect outcomes.<sup>105</sup> Recent Australian research suggests the compliance focus of current accreditation processes distracts from quality improvement.<sup>106</sup>

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103. Griffith (2018).

104. See for example: Alkhenizan and Shaw (2011), Hinchcliff et al. (2012), Greenfield et al. (2014), Bogh et al. (2015), Brubakk et al. (2015), Falstie-Jensen et al. (2015), Bogh et al. (2016) and Schaefer and Wiig (2017).

105. Desveaux et al. (2017).

106. Leggat and Balding (2017).

Denmark recently introduced accreditation and then discontinued it for public hospitals with claims by doctors and nurses that they were 'drowning in manuals and paperwork and have no time for patients'.<sup>107</sup> Denmark now uses a quality assurance model, based on high-levels of compliance with clinical quality registries, using those registries to monitor and improve quality.<sup>108</sup>

An accreditation visit itself results in a period of abnormal care. US research suggests hospitals may improve their performance during accreditation visits. One study showed significantly lower '30-day mortality' for patients admitted during the week of an accreditation visit than patients admitted in the three weeks before or after the visit.<sup>109</sup>

#### The standards hospitals are assessed against lack a strong evidence base

The nature and subject of standards is central to accreditation – they communicate what the regulator thinks is important.<sup>110</sup> There is little evidence examining the development, writing, implementation and impacts of healthcare accreditation standards.<sup>111</sup>

The standards should be linked to important patient outcomes.<sup>112</sup> As healthcare is continually changing, indicators should be re-evaluated

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107. See: <https://gpaccess.uk/news/hospital-accreditation-to-end-in-denmark/>.

108. Denmark.Sundhedsdatastyrelsen (2016).

109. Barnett et al. (2017). It is unclear whether this is an apparent validation of the methods and metrics used in accreditation visits or whether there is a 'Hawthorne' effect at work, and all aspects of care changed during the accreditation visit.

110. Walshe and Phipps (2013).

111. Greenfield et al. (2012).

112. A comprehensive discussion of indicator development is beyond the scope of this report, but as an example, a recent review of perioperative clinical indicators found most were not supported by a high grade of evidence: 62 per cent of structure indicators had no associated level of evidence, compared with 47 per cent of process indicators; Chazapis et al. (2018).



regularly, including by establishing and reassessing links to important patient outcomes, and assessing the experience in the best hospitals, which can be used as benchmarks. The decision can then be made to 'retain, revise, replace, or retire' them.<sup>113</sup> If links to important outcomes were not clear when standards were developed, it becomes hard to reassess their utility.

Another problem with current Australian standards are that while each individual standard is intrinsically 'worthy', the set do not represent measured solutions proportionate in size to measured patient harms. Correcting this would require a comprehensive approach to patient outcomes and also considering what improvements are possible, based on the best institutions. Cost should also be considered: some areas will represent better investments than others.

#### Different auditors use different methods

There are doubts about the validity and reliability of surveyor-based assessments, because different surveyors provide different opinions.<sup>114</sup> To reduce these doubts, Australia should increase use of agreed measures of quality such as complication rates and other clinical outcome indicators.<sup>115</sup>

#### Doctors are sceptical

Reviews consistently demonstrate doctors' scepticism about accreditation systems.<sup>116</sup> They are concerned about the cost of accreditation programs, their bureaucratic and prescriptive nature, and the demands made on staff. And they believe these programs have no impact on the quality of health care.<sup>117</sup> They may feel accountable to themselves, their

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113. Ibid.

114. Boyd et al. (2014); Greenfield et al. (2016); and Newman (2017).

115. Hinchcliff et al. (2012).

116. Alkhenizan and Shaw (2011).

117. Ibid.

patients, their peers and to their profession; but not to accreditation bodies.<sup>118</sup> The evidence shows doctors do not 'buy-in' to the accreditation process.<sup>119</sup>

#### Safety is not tested, and patient outcomes are not systematically measured

In Australia, accreditors mostly assess work 'as imagined'; they do not assess management of actual high-risk situations.<sup>120</sup> In England, the accreditation system has been criticised for failing to focus on 'real achievements and outcomes for patients', and because of this it has been identified as contributing to a major hospital quality scandal.<sup>121</sup>

#### There are no incentives for excellence

When accreditation is based on a pass-or-fail approach to the standards, hospitals can be tempted to focus on meeting minimum requirements rather than striving for excellence.<sup>122</sup>

Australia's standards represent a 'floor'; there are neither incentives nor models for excellence that indicate where the 'ceiling' might be. We should develop standards that promote excellence by using outcomes as the measure.

Peak bodies and specialty societies in Australia might also provide additional specialised accreditation certification. US hospitals use such extra accreditation to attract patients and staff.<sup>123</sup>

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118. Stoelwinder et al. (2004); and Jorm (2012).

119. Pannick et al. (2016).

120. Daly et al. (2017) and Chatburn et al. (2018). Nor are 'mystery shopper' investigations employed; Zabar et al. (2014).

121. Mid Staffordshire NHS Foundation Trust Public Inquiry (Chair: Robert Francis) (2013, p. 54).

122. Walshe and Phipps (2013).

123. See: <https://www.nursingworld.org/organizational-programs/magnet/>; and <https://www.nist.gov/baldrige>.

### Accreditation of hospitals overlooks big differences within each hospital

The accreditation system in Australia should assess the many different aspects of care delivered within each hospital, rather than seeking to assess the hospital as a whole. As we have shown in Section 1.4, the performance in one clinical unit may be quite different from the performance in another clinical unit in the same hospital. The notion of an organisation as complex as an entire hospital ‘passing’ accreditation is archaic.

### Accreditation reports are not made public

One current Australian accreditation standard (1, Item 1.9) requires timely public reporting by hospitals about safety and quality performance. Yet data collected for accreditation, and accreditation reports themselves, are not publicly available in Australia. Hospitals and health departments receive detailed reports, but only the date of successful accreditation is made public.<sup>124</sup> This must change. Some public and private institutions *choose* to make accreditation and other safety information available.<sup>125</sup> But public reporting should be required of all hospitals.

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124. In contrast, detailed executive summaries of medical school accreditation reports are available on the web, and the full reports can be purchased by anyone. The Australian Aged Care Agency makes all accreditation reports available on its website. In the United Kingdom, the independent Care Quality Commission publishes the full inspection report for every hospital, with a rating for each major specialty area, discussion of strengths and weakness, instructions given to the hospital, and a global rating.

125. For example, see: <http://www.healthscopehospitals.com.au/quality/my-healthscope/melbourne>.

### 3.3.2 The Australian hospital accreditation system is under review

The states and territories, and chief executives of health service organisations, have expressed concerns with aspects of the current hospital accreditation scheme. In response, ACSQHC has proposed a six-point reform plan:

1. Improve the veracity of health service organisation assessments.
2. Improve the effectiveness and expertise of the assessment team.
3. Assess the health service organisation’s safety and quality data to better inform assessment processes.
4. Improve regulatory oversight.
5. Improve communication about the assessments and their outcomes.
6. Improve resources and support for health service organisations.

A new accreditation system will come into effect on 1 January 2019. This will involve:

- changing the assessment process;
- additional training and process requirements for assessors;
- using data for determining reassessment requirements;
- engaging consumers in the assessment process;
- enhancing the role of the regulator in accreditation, including reducing conflicts of interest that exist; and
- supporting health service organisations to understand their safety and quality process gaps, enhance their implementation,

and therefore ensuring they are better prepared for assessment processes.

These changes are welcome but do not go far enough. A paradigm shift is needed to make accreditation more relevant and useful to hospitals and clinicians. These changes are even more necessary because accreditation is compulsory. Currently hospitals have no choice but to submit to a tired assurance process that we believe could provide a much better return for the investment made in it. In the following sections, we propose a new model which encompasses far-reaching and fundamental changes to accreditation.

### 3.4 A new model for accreditation

The failures of the current system are manifold. Radical change is needed. Over time, hospital accreditation in Australia should move from a 'one size fits all', generic approach, to one based on measurable outcomes and tailored to each hospital's needs. The new approach should apply to hospital-wide accreditation and also inform medical college accreditation of hospitals for specialty training.

Accreditation needs to move from being an 'event' in a hospital's calendar, to being a tool for a hospital's continuous improvement.<sup>126</sup>

The emphasis should move from compliance to improvement and safety assurance. The accreditation process itself should be more accountable through transparency about who is doing the accreditation survey and what assessments are being made.

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126. This new model for accreditation will make it like many other clinician-led, multi-hospital improvement initiatives, including 'collaboratives' and condition-specific programs such as the Victorian 'Tumour Summits' ([http://www.nemics.org.au/page/Improving\\_cancer\\_care/VICS\\_and\\_other\\_ICS/](http://www.nemics.org.au/page/Improving_cancer_care/VICS_and_other_ICS/)) which develop optimal cancer care pathways, track performance against the pathways and provide feedback to hospitals.

#### 3.4.1 A new approach to improvement

Hospital accreditation should be reoriented to focus on helping hospitals improve, rather than judging them against 'standards'. Responsibility for improving hospital safety should be local, clinically-led and overseen by each hospital's governance processes. We propose four strategies to encourage a tailored, improvement-focused approach:

1. State health departments should collect data about each hospital's performance at least yearly.<sup>127</sup> For some states this will require investment in centralised data analytics and reporting. The information should drill down to clinical-unit level. It should measure three things: clinical outcomes (at first focusing on hospital-acquired complications but later adding other outcomes, including patient-reported outcomes);<sup>128</sup> patients' experiences; and staff members' experiences. The advantages of each of the three measures are set out in Table 3.1 on the next page.
2. Each hospital and clinical unit should develop an improvement plan based on its own contemporary data<sup>129</sup> (and states should run workshops to help hospitals develop good plans).<sup>130</sup> This

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127. The data needs to be clinically meaningful and relevant: Duckett et al. (2017a) and MacLean et al. (2018). Data provided to hospitals should also include information on the costs of complications, as discussed in the previous chapter.

128. The measures used in this and previous Grattan Institute reports provide a good start, so do the measures developed by the International Consortium for Health Outcomes Measurement (<http://www.ichom.org/>).

129. The collaborative hospital benchmarking organisation, Health Roundtable (<https://home.healthroundtable.org/>) helps some institutions with collaborative improvement based on data, but this voluntary and private process should be considered a supplement to, not a substitute for, an externally audited process that includes all hospitals.

130. An outcomes-focused accreditation process such as we have proposed could also be established within hospitals, where a 'micro-accreditation' process based on empirical assessment of variations in outcomes and organisational and clinical flow diagnoses could be used by clinical teams to self-accredit and 'report up'. In

builds on the current requirement in accreditation that hospitals have systems to monitor practice variation and that they review their performance against external measures.<sup>131</sup>

3. Progress against this plan should be checked at least once a year by external accreditors (at least 50 per cent of whom should be drawn from outside the state). Surveyors should spend a day reviewing the data and plan, and then a day meeting with the Board and senior management. These meetings should focus on assisting the hospital's own improvement efforts. The whole process should be about improvement, not blame.<sup>132</sup>
4. Surveyor assessments of each hospital and specialty, together with quantitative data such as complication rates, should be made publicly available.<sup>133</sup>

This 'improvement and outcome focused' accreditation model relies on credible data. In a previous report we outlined how existing data sources can be strengthened.<sup>134</sup>

### 3.4.2 A new approach to safety assurance

Hospitals should self-certify for a set of basic standards, or 'process measures', with no evidence of audit required. This would reduce paperwork and free-up independent accreditors to test safety and to support hospitals' improvement activities. These basic standards themselves could occasionally be audited using a risk-based approach.

\_\_\_\_\_ this way accreditation would happen organically at clinical team, ward, hospital and regional levels.

131. These are part of Standard 1.28 of Australian Commission on Safety and Quality in Health Care (2017).

132. Armstrong et al. (2018).

133. Surveyors should be publicly identified, just as journal reviewers are increasingly expected to be. This would ensure they are publicly accountable for their conclusions.

134. Duckett et al. (2017a).

**Table 3.1: Measures to be used in accreditation**

Measure	Advantages
Clinical outcomes (with an initial focus on hospital-acquired complications but later adding other measures such as patient-reported outcomes, such as the degree of improvement in their mobility).	These are important objective measures (and there is no dispute about their value).
Patient experiences (such as measures of communication and being treated with dignity).	There is strong evidence linking staff and patient experience to clinical outcomes. These measures are relevant to all patient outcomes and harms (not just a selection). For more detail, see Appendix C.
Staff experiences	

Auditors should make unannounced or short-notice visits to check on problems or high-risk situations recently identified elsewhere in the state or nation.<sup>135</sup> These hospital visits would *not* be about compliance with traditional accreditation standards, but about testing safety (see Appendix D for more detail).

### 3.5 The implications of the new model

Our new model is radically different from the current accreditation process in Australia and should not be introduced overnight. Instead, we recommend a phased transition, starting with pilot programs in some states or hospitals.

Hospital accreditation schemes cost money – both in terms of direct outlays on fees and preparation time, but also in terms of time spent

\_\_\_\_\_ 135. ACSQHC has introduced the option of short-notice surveys, but these will be about compliance with current process standards; see also Hinchcliff et al. (2017).

by managers and clinicians preparing for accreditation which would be better spent on other quality improvement activities. Poor quality care also costs money, in addition to causing harm. Therefore a better accreditation scheme should be seen as an investment to improve the quality of care and reduce the costs of poor quality.

### 3.5.1 What would the new model mean for accreditation agencies?

The two new kinds of external accreditation visits (progress monitoring and safety assurance) would help ensure healthcare staff benefit from the expertise of surveyors.

Surveyors would be likely to specialise in either safety testing or in assessing organisational safety plans (which will require experience working with boards and senior management).

### 3.5.2 What would the new model mean for medical colleges?

There are 16 medical colleges in Australia that oversee specialty medical training. They accredit hospitals as being suitable for their trainees, taking into account factors including the activity and staffing levels in the relevant specialty. Currently, medical colleges' accreditation of hospitals makes mention of, but does not emphasise, patient safety and quality of care (Box 4).

Whole-of-hospital accreditation is a crude measure of specialist unit safety. None of the college standards we reviewed address the possibility of trainees regularly participating in or being exposed to poor standards of patient care.

Under our proposed model, medical colleges would remove accreditation for training from units with poor performance (that is, consistently in the bottom 10 per cent of performance) and where there is a material

#### Box 4: Examples of current medical college accreditation statements on safety and quality

The 2017 Royal Australasian College of Surgeons' eight standards and 37 accreditation criteria primarily focus on ensuring the well-being of the trainees and ensuring that they get plenty of opportunity to learn the technical skills of surgery. One standard states: 'a hospital involved in surgical training must be fully accredited and have the governance structure to deliver and monitor safe surgical practices'.<sup>a</sup>

The Royal Australasian College of Obstetricians and Gynaecologists' standards also focus on employment conditions and training opportunities. But they do require trainees to be involved in clinical reviews and audits, and to be given opportunity to participate in hospital committees such as OH&S, Clinical Audit, Mortality and Morbidity, Quality Assurance and Clinical Governance.<sup>b</sup>

The Australia and New Zealand College of Anaesthetists' mission is 'to serve the community by fostering safety and quality patient care in anaesthesia, perioperative medicine and pain medicine'. Its standards require anaesthetic departments to be 'committed to the delivery of safe and high-quality patient care'. And facilities 'must be fully accredited [and] have the governance structures to deliver and monitor safe patient care in a safe workplace'.<sup>c</sup>

a. <https://www.surgeons.org/media/25610862/accreditation-of-hospitals-and-posts-for-surgical-education-and-training.pdf>.

b. [https://www.ranzcog.edu.au/RANZCOG\\_SITE/media/RANZCOG-MEDIA/Training%20and%20Assessment/Specialist%20Training/Hospitals/Accreditation-Standards-and-Guidelines-2016-v1-2.pdf](https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Training%20and%20Assessment/Specialist%20Training/Hospitals/Accreditation-Standards-and-Guidelines-2016-v1-2.pdf).

c. <http://www.anzca.edu.au/about-anzca/our-college>.

difference, on any of three measures: patient outcomes; patient experience; or staff experience.<sup>136</sup>

College training standards would also require evidence of specialist participation in the hospital's improvement plan.

The Australian Medical Council, and similar accrediting bodies, would assess the extent to which colleges incorporate outcomes and quality improvement approaches in their work. The experiences of medical students and junior doctors affects their later clinical practice.<sup>137</sup> Therefore, consideration should also be given to reducing their exposure to poor-performing units.

### 3.5.3 What would the new model mean for clinicians?

Clinicians would be much more likely to buy-in to our proposed accreditation model, because it is an improvement plan based on their local data. They would see it as a valuable contributor to improving the safety and quality of care, rather than merely extra paperwork.<sup>138</sup>

Clinicians would be supported with timely data, presented in a coherent and easily digestible way; they would not be deluged with irrelevant information.<sup>139</sup>

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136. College accreditation should not be precipitously withdrawn – especially during trainees' rotations – and hospitals should be given notice of the risk of losing training accreditation and asked to show cause why accreditation should not be withdrawn.

137. Jorm et al. (2017a).

138. Desveaux et al. (2017).

139. Duckett et al. (2017a).

### 3.5.4 What would the new model mean for hospital managers and boards?

Hospital managers would need to develop a sophisticated strategy for monitoring safety and quality improvement.<sup>140</sup> They would have to get meaningful performance information into the hands of clinicians rapidly. Internal hospital audits would become more important in ensuring safety and providing assurance to managers and boards.<sup>141</sup>

Boards have an important role in improving hospital safety<sup>142</sup> and staff experience.<sup>143</sup> Hospitals with boards that pay more attention to clinical quality have managers who better monitor quality performance.<sup>144</sup>

Under our model, the board's primary jobs would be overseeing the diagnostics, and supporting and monitoring the continuous-improvement plan.

### 3.5.5 What would the new model mean for states?

State governments, which are the managers of public hospital systems and regulate private hospitals, would have more control. Currently, they make investments and manage safety crises without any ability to direct external accreditation processes. Under the new model, states would nominate their preferred issues for safety assurance activities. States would also be free to develop their own awards system to encourage excellence in accreditation.

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140. Parand et al. (2014).

141. The designated lines in the 'three lines of defence' model vary, but front-line staff can be considered the first line, management the second, and the third is provided by internal and external auditors who check on what is actually happening and if risk controls are working. For an example of such an approach to clinical risk, see: VMIA (2017).

142. Jiang et al. (2012); and Erwin et al. (2018).

143. Mannion et al. (2017).

144. Tsai et al. (2015).



### 3.5.6 What would the new model mean for patients?

For the first time, the public would have access to detailed accreditation reports on all public and private hospitals. The reports would use common measurements and provide comparable data. Hospitals would be required to make public a summary of their improvement plan. And ACSQHC would produce an annual report, also available to the public, summarising the nationwide accreditation reports and improvement plans.

The Australian public is the fundamental client (and payer) for external accreditation of healthcare. It's not appropriate for results to remain private between the accrediting agency, hospitals, health departments and ACSQHC. Citizens require information to fulfil their democratic role of holding government to account. Under our model of hospital accreditation, citizens would have more and better information. With better information, and confidence that hospitals are serious about improving their safety and are being held accountable for doing so, overall trust in the health system is likely to improve.

Table 3.2 summaries the benefits of our new model of accreditation.

**Table 3.2: Why the new model would be better than the current model**

<b>Problem with current model</b>	<b>Advantage of new model</b>
There is a lack of evidence that it improves patient outcomes.	New data sources and improvement plans will help accreditation 'work'.
Standards lack a strong evidence base.	Major emphasis on patient outcomes, patient experience and staff experience replaces process-based standards – all have solid evidence.
Different surveyors use different methods.	Comprehensive objective data will be used.
Medical staff are not engaged in the process.	The focus on patient outcomes, and the potential consequences for poor performance, will ensure staff are engaged.
Patient outcomes are not systematically measured, and safety is not tested.	Patient outcomes will be measured, and safety will be tested during unannounced visits.
There are no incentives for excellence.	The publication of unit-level results will encourage excellence.
Accreditation results are either not made public or are difficult to find.	Detailed accreditation results will be readily available to the public.

## 4 Conclusion

In this report we have demonstrated the cost to Australian hospitals and taxpayers of poor-quality care. A focus on high-profile errors has distracted from the every-day suffering of the many patients who develop ‘minor’ complications. These minor complications also result in a substantial cost to the healthcare system. Not all complications are preventable or avoidable, but their incidence could be reduced. Spending money on treating complications without the effort to systematically work to reduce their incidence is simply wasteful.

In our previous reports we have argued for the need to improve our data sources and for more transparency. Systematic improvement is not possible while clinicians and managers are kept ‘in the dark’, without high-quality comparative data. And when patients and consumers are kept ‘in the dark’ they are denied the possibility of making personal choices or holding governments to account.

In this report, we analysed the financial costs of complications in Australia and also, importantly, demonstrated that better care is not necessarily more expensive. Although our focus in this report is on financial costs of complications, and potential savings, we must not lose focus on the reality that complications of care can have a devastating impact on patients and their families. The fact that safer care saves money is simply an additional reason for hospitals to focus on safety and provides the framework for hospitals – and their clinicians – to develop and pursue a business case for improving safety to supplement other bases for improvement efforts, including professional motivations.

Our comprehensive consideration of pay-for-performance incentives was disappointing. There is no simple approach to system-wide penalties or bonuses that can be recommended. Many schemes involve considerable data collection, and the cost of administering such schemes is not clearly justified by their results. The current national

approach in Australia is confusing, uses only a small target group of complications and will not directly affect a hospital’s bottom line. It may limit management attention to this narrow set of harms and creates the risk of gaming. It will not improve quality.

Instead, we recommended two main actions. The first is to provide more detailed data on the costs of complications to hospitals, making the internal financial incentives to improve care far more evident. This data needs to be comparative and detailed, so hospitals can see the opportunities they have to improve unit by unit. This will allow the development of improvement work based on business cases tied to ongoing measurement. Funders (health funds and state health departments) should also both help hospitals (with business case models) and hold them to account (rather than bailing them out for over-spends) for a more prudent approach – reducing waste due to complications. Tailored, hospital-specific, financial incentives – possibly including gain-sharing – might also be included in contracts between insurers and private hospitals.

The second action is to overhaul the main national safety and quality assurance system we have – hospital accreditation. The current system has proven ineffective and modifications to it won’t produce the systematic attention to patient outcomes we need.

Our proposed new model replaces a focus on processes and compliance with minimum standards, with a focus on local patient outcomes and improvement. Meaningful local outcomes will engage clinicians.

Hospitals will no longer be spruced-up for an infrequent planned ‘big event’ accreditation visit. Instead, surveyors will conduct safety tests without notice and provide scrutiny and support for hospitals’ improvement work. Attention to the operation of a continuous outcomes-data

based improvement plan becomes the major role of the hospital board. Again, here, new levels of transparency are proposed – accreditation of hospitals should never have been a secret business.

As part of the revamped hospital accreditation, we also propose that trainees be prevented by medical colleges from training in underperforming units.

We believe that the two actions we propose create a systematic approach to reducing the incidence of all harms to hospital patients and therefore to reducing the cost of complications.

## Appendix A: Current national financial incentives

### Step 1: How 'Hospital Acquired Complications' (HACs) theoretically affect the Commonwealth-to-state hospital payment rate

Commonwealth funding to states for public hospitals is governed by agreements between the Commonwealth and states. There are two components of that funding: a base amount, complemented by a growth component. The size of the growth component depends on the number and type of patients treated in public hospitals.

Under the growth component, payment for each type of hospital patient is based on the change in activity, measured in National Weighted Activity Units (NWAU), and paid for at the National Efficient Price (NEP).

The NWAU value for each type of patient is set by the Independent Hospital Pricing Authority (IHPA). For acute inpatients, the NWAU is based on the patient's Diagnosis Related Group, which in turn is based on the patient's diagnoses, and the procedures the patient had. The NWAU also takes account of other factors which legitimately affect patient treatment costs, such as whether they live in a remote area or are Indigenous.

The NEP is based on the average cost per NWAU. It is determined each year by the IHPA using data on public hospital costs from three years before, adjusted for inflation. The Commonwealth pays 45 per cent of the NEP for the increase in the number of weighted patients treated since 2014-15, measured as NWAUs.

The Government has directed the IHPA to incorporate safety of patient care into its pricing. The NWAU value for a hospital patient is reduced where a patient suffers one or more of the designated Hospital Acquired Complications (HACs). The size of the funding cut reflects the expected extra treatment cost caused by the particular HAC, adjusted

for any characteristics of the patient which make him or her inherently more susceptible to a particular HAC (because there is less scope for hospitals to prevent some patients suffering a HAC).

The IHPA has analysed actual activity and costs data to estimate the incremental costs – in terms of percentage increases – of each of the 16 HACs. It divides patient episodes into three 'complexity' groupings: low, medium or high. Low-complexity patients should not have HACs, so the funding reductions for low-risk episodes reflect the full incremental cost of the relevant HAC. The cost in low-complexity patients is then used as a benchmark for the other two groups.

In summary, the value of the NWAU for any admission is reduced where a HAC occurred. The size of the reduction is based on the average incremental cost of the complication and the complexity of the patient.

### Step 2: How the HAC-adjusted payment rate theoretically affects the payment from the Commonwealth to a state

As described in Step 1, the NWAU value for a patient who has suffered one of the designated HACs is lower than for a patient who had the same diagnosis and procedure but didn't suffer a HAC. Given that the Commonwealth payment is based on the change in activity measured in NWAUs, a lower NWAU should mean a lower payment.

When the IHPA introduces significant changes to classification systems or costing methodologies, the change is modelled on data from the year prior to implementation. This is called 'back-casting' and has been done for the safety component of growth funding. This back-casting means that if the level of HACs remains the same between the years,

then the impact on the Commonwealth growth funding to the state would be minimal.

From 1 July 2017 the increase in Commonwealth payments nationally is capped at 6.5 per cent each year. Each state also has a notional cap, also set at 6.5 per cent. If total activity across Australia increases by more than 6.5 per cent, then, after the data are checked and reconciled, those states which have contributed to that above-cap growth rate by having above 6.5 per cent growth themselves, have their payments capped. The level of any state's cap depends on redistribution of potential volume from states which are under cap.

The effect of capping the Commonwealth contribution mitigates the impact of the HAC-related NWAU adjustment. For states with Commonwealth funding below 6.5 per cent, the funding is potentially affected by the change in prevalence of HACs. If a state's funded activity has grown at more than 6.5 per cent, then any reduction in its total NWAU due to the change in the prevalence of HACs may have no financial impact on its funding from the Commonwealth.

Because of data lags and lags in reconciling data, the final result for each growth-impacted state is not known until the results for all states are known. States may not know the impact on them until well after the close of any financial year – and so will not know during the course of a financial year whether the HAC-related NWAU adjustment will impact on their funding or not.

Nevertheless, Commonwealth funding is publicly described as flowing to hospitals and local health districts with the safety adjustment regardless of whether it actually occurs, given the effect of the cap.

In summary, the HAC-related NWAU adjustment may or may not impact on a state's growth funding because of the 6.5 per cent funding cap, and, if it does, its effect is at the margin – the incremental cost of the change in the risk-adjusted prevalence of HACs.

### Step 3: What determines the actual amount of money a state receives for public hospital care

Australia is a federation, with a Constitution which significantly constrains the taxing ability of the states. But all Australians expect to have approximately the same access to hospital services, regardless of where they live. This has led to a complex set of money exchanges between the Commonwealth and the states designed to ensure that every state is able to provide services at a reasonable standard.

This process is known as horizontal fiscal equalisation. Essentially, under horizontal financial equalisation an independent body, the Commonwealth Grants Commission, assesses how much it would cost a state to deliver hospital services (and all other state services, such as school education and policing) at a common standard.

For hospital costs, the Commission uses national, not state-specific data. It then assesses the amount of revenue available to a state to meet its service costs. This includes any own-source revenue (for example, payroll taxes and conveyance duties) a state could generate if it followed the average taxing policy, plus the amount of Commonwealth payments for specific purposes (including the growth activity based funding payments). The gap between each state's assessed costs and revenue determines the amount of GST it receives.

What this means is that regardless of their actual levels of activity, all states receive funding from the Commonwealth to provide hospital services at a common standard, and a state will have to fund the cost of any services above the common standard. It also means that any penalties related to a state's incidence of HACs are washed away in the overall funding arrangements.

Grants Commission assessments are lagged and so any penalties affect the cash flow to a state, pending the application of Grants

Commission assessments. However, the impact of the penalties is not expected to be material.

In summary, the activity-based funding allocation processes simply determines the growth in the total Commonwealth contribution to total state health costs.



## Appendix B: Overview of regulation of Australian health care

The performance of public hospitals is closely managed by state health departments via funding contracts that set out performance expectations. Contracts of this nature carry out four key accountability tasks: setting standards against which to judge accounts; obtaining accounts; judging accounts; and deciding what consequences should follow.<sup>145</sup> Contracts provide a transfer of risk and accountability from the commissioner to the provider,<sup>146</sup> but government remains ultimately accountable for health care in Australia (including for institutional failures).

Long-term relationships, limited choice of contracting partners and reluctance to use financial sanctions limit the effectiveness of hospital contracts.<sup>147</sup> Some newer contractual models (*e.g.* outcomes-based contracting) include incentives as well as monitoring of performance.<sup>148</sup> Private hospitals receive a lighter monitoring by state licensing units, and a much heavier monitoring from their central organisational structures and from the requirements of their funders (health funds).

Government bodies with responsibilities for safety and quality in health care include the Council of Australian Governments (COAG) and the Standing Council on Health, which comprises health ministers of the states, territories and the Commonwealth. The relevant Commonwealth agencies include the Australian Health Practitioner Regulation Agency (AHPRA), the Australian Commission on Safety and Quality in Health-care (ACSQHC), the Independent Hospital Pricing Authority (IHPA), and the National Health Performance Authority (NHPA). The functions and powers of these agencies are set out in the National Health Reform Act 2011.

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145. Allen et al. (2016).

146. Sanderson et al. (2017).

147. Allen et al. (2016).

148. Sanderson et al. (2017).

**Figure B.1: The crowded landscape of hospital safety oversight**

**Health professions**

- Initial preparation (undergrad and specialty)
- Professional practice

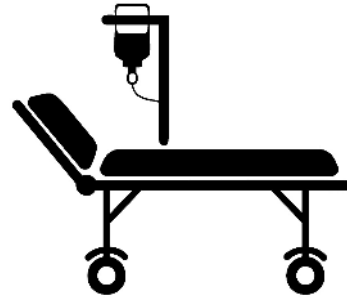
**Pharmaceuticals and devices**

- Safety and efficacy (Therapeutic Goods Administration)
- Adverse reactions (Adverse Drug Reactions Advisory Committee)

**Adequacy of funding**

- State government funding policies for public hospitals
- Insurers contracts with private hospitals

Source: Grattan analysis.



**Public or private hospital**

**Hospital internal oversight**

- Board committees
- Employment practices
- Clinical governance practices
- Patient complaints processes

**Self-reporting**

- Hospital annual reports

**Professional standards and guidelines**

- Professional standards (Australian Health Practitioner Regulation Agency, professional associations and colleges)

**Accreditation**

- National standards (Australian Commission on Safety and Quality in Health Care)
- Assess against standards (accrediting bodies)

**Consumer protection**

- National (Australian Competition and Consumer Commission)
- State health complaints bodies

**State assurance and improvement bodies**

- Improvement bodies (Better Care Victoria, NSW Agency for Clinical Innovation)
- Assurance bodies (NSW Clinical Excellence Commission, Safer Care Victoria, health departments)

**Public external reporting**

- State (NSW Bureau of Health Information, Victorian Agency for Health Information, SA Health Performance Council)
- National (Australian Institute of Health and Welfare, Australian Commission on Safety and Quality in Health Care)

## Appendix C: Why the experience of patients and staff matters

Hospitals with engaged staff and satisfied patients tend to deliver safer and higher-quality care.

Process measures related to particular patient harm events are problematic, they cannot encompass a complete set of harm events (all patient outcomes) and they are not always well correlated with the relevant outcomes.<sup>149</sup>

Staff and patient experience measures, by contrast, offer great opportunity. For instance, a recent US study showed strong correlations between an all-cause harm measure and patient safety culture, employee engagement and patient experience at the hospital unit level.<sup>150</sup>

### C.1 Patient experience

A survey of 4,605 US hospitals found hospitals with higher patient satisfaction scores had better quality of medical care and lower rates of adverse events.<sup>151</sup>

Australia needs to make better use of data on patient experiences. Our previous report, *Strengthening safety statistics: how to make hospital safety data more useful*, recommended:<sup>152</sup>

149. For instance, an analysis of 1,984 unannounced US hospital accreditation surveys found patients admitted during the week of a survey had significantly lower 30-day mortality than patients admitted in the 3 weeks before or after the survey; Barnett et al. (2017). However, no change in secondary safety outcomes such as infections and Patient Safety Indicators was observed, indicating their limited coverage. The causes of death for patients are subtle and varied.

150. Sammer et al. (2018).

151. Stein et al. (2015). Another US study of 3,000 institutions found a significant relationship between higher patient experience ratings and lower 30-day re-admission rates and lower complication rates; Trzeciak et al. (2016).

152. Duckett et al. (2017a).

- Linking Patient Reported Experience Measures (PREMs) data to routine data, to enable standardisation for different populations.
- Gathering PREMs data at an agreed time after a patient leaves hospital.
- Collecting and publishing more detailed PREMs data, including to unit/ward level.
- Publishing PREMs data for both public and private hospitals.
- Use data aids to enable patients and health professionals to make better use of the data.

The United Kingdom and United States have used national patient surveys for many years, and published comparative results from these. In Australia, a national set of 12 core questions is being developed.<sup>153</sup>

### C.2 Staff experience

Better hospital culture means better patient outcomes.<sup>154</sup>

How people relate to each other at work influences the quality of the care they provide – trust and respect are critical.<sup>155</sup> Evidence suggests that staff engagement is the most critical measurable element of organisational culture that effects patient experience and patient

153. See the Australian Commission on Safety and Quality in Health Care's 'Australian Hospital Patient Experience Question Set': <https://www.safetyandquality.gov.au/our-work/indicators/hospital-patient-experience/>.

154. Jacobs et al. (2013) and Braithwaite et al. (2017). However, the links between a positive safety culture and safer, high-quality care are not always consistently made or of significance; DiCuccio (2015), Hogden et al. (2017) and Lee et al. (2017).

155. Sutcliffe et al. (2016).

outcomes.<sup>156</sup> Surveys in the United Kingdom show that patient infection rates decreased in hospitals where staff felt they could contribute to improvements at work. Hospitals where staff are engaged also have reduced patient mortality, lower absenteeism and less staff turnover.<sup>157</sup>

Staff engagement needs to be at unit level, because units within hospitals have distinct cultures.<sup>158</sup>

The new hospital accreditation model recommended in this report will require agreement about a national clinician engagement survey.

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156. West et al. (2011); Dawson (2014); and Curry et al. (2017).

157. Sutcliffe et al. (2016). For a detailed discussion of clinician engagement, including definitions and tips for improvement, together with results of investigation in Victoria, see Jorm et al. (2017b).

158. Mohr and Batalden (2002); and Edmondson (2004).

## Appendix D: What is meant by ‘testing safety’?

The United Kingdom has developed an excellent framework for measuring and monitoring safety – see Box 5 on the next page. Designed to help change staff thinking and behaviour, it has five dimensions.<sup>159</sup>

Under our proposed model, the unannounced or short-notice tests of safety would focus on dimensions 2, 3 and 4 of the framework. Each state would choose a set of safety priorities for the external accreditors to test in their public and private hospitals each year. This would make it possible to work out if a problem identified in one place occurs in others (in which case solutions beyond the local could be developed if needed). A suite of national priority tests/challenges should also be developed. As well as current conventional safety issues these could include emergency preparedness, for instance response to a suspected Ebola case or a major ethical/legal dilemma emerging after-hours.

Human factors or ergonomics practitioners would be central here. UK practitioners recently compiled 760 challenges to safe care delivery in England.<sup>160</sup> Clinical teams could even be given a patient scenario and taken through one of the predictive ergonomic risk analysis techniques<sup>161</sup> by the surveyor, the result being a tailored diagnostic they could then use as a basis for improvement.<sup>162</sup>

A recent review of short-notice and unannounced surveys for accreditation provides little evidence relevant to our proposed model.<sup>163</sup> They have only been compared using the same accreditation standards, or an abridged version (whereas we are suggesting an approach that is a safety challenge rather than standards based). The evidence suggests clinicians around the world support short-notice or unannounced surveys: ‘many healthcare professionals believe the burden of preparing for advance-notification accreditation surveys reduces the time awarded to patient care’.<sup>164</sup> Unannounced visits have recently been introduced as part of the aged care quality system, and these might provide useful lessons for the future hospital accreditation system.<sup>165</sup>

Australian stakeholders have expressed concern that introducing short-notice or unannounced surveys could signal a move towards a compliance model and away from a quality-improvement model.<sup>166</sup> Our proposed model, however, strengthens the quality-improvement elements of accreditation while adding additional safety testing as complementary elements.

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159. ‘Rather than inspecting standards and processes, regulators might more productively ask organisations to “please demonstrate your safety measurement and monitoring system” and ask how integration and learning is achieved at every level of the organisation’: Chatburn et al. (2018).

160. Hignett et al. (2018).

161. For example, Healthcare Failure Modes and Effect Analysis (HFMEA), Systematic Human Error Reduction and Prediction Analysis (SHERPA) and Systems-Theoretic Accident Model and Processes (STAMP).

162. Parand et al. (2018). Even more exciting would be the possibility of this work creating a real understanding of why things go wrong. NHS Scotland did this by undertaking a detailed prospective investigation of why variability exists in patient identification and labelling of blood samples; Pickup et al. (2017).

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163. Hinchcliff et al. (2017).

164. Ibid.

165. <https://agedcare.health.gov.au/quality/current-quality-assessment-arrangements-including-unannounced-re-accreditation-audits>.

166. Hinchcliff et al. (2017).

**Box 5: The UK's Measuring and Monitoring of Safety Framework**

- 1.** Has patient care been safe in the past? We need to assess rates of past harm to patients, both physical and psychological.
- 2.** Are our clinical systems and processes reliable? This is the reliability of safety-critical processes and systems but also the capacity of the staff to follow safety-critical procedures.
- 3.** Is care safe today? This is the information and capacity to monitor safety on an hourly or daily basis. We refer to this as 'sensitivity to operations'.
- 4.** Will care be safe in the future? This refers to the ability to anticipate, and be prepared for, problems and threats to safety.
- 5.** Are we responding and improving? The capacity of an organisation to detect, analyse, integrate, respond and improve from safety information.



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