GRATTAN Institute

November 2019

Saving private health 1

Reining in hospital costs and specialist bills

Stephen Duckett

Grattan Institute Support

Founding members

Australian Government

Endowment Supporters

The Myer Foundation

National Australia Bank

Susan McKinnon Foundation

Affiliate Partners

Medibank Private

Susan McKinnon Foundation

Veitch Lister Consulting

Senior Affiliates

Cuffe Family Foundation

Maddocks

The Myer Foundation

PwC

Scanlon Foundation

Trawalla Foundation

Wesfarmers

Westpac

Affiliates

Allens

Ashurst

Corrs

Flagstaff Partners

Jemena

McKinsey & Company

Silver Chain

Urbis

Woodside

Grattan Institute Report No. 2019-12, November 2019

This report was written by Stephen Duckett and Kristina Nemet. Callum Shaw and Emma Tinning provided extensive research assistance and made substantial contributions to the report.

We would like to thank the members of Grattan Institute's Health Program Reference Group for their helpful comments, as well as numerous government and industry participants and officials for their input especially including Shaun Gath, Brian Hanning and Lesley Russell Wolpe.

The opinions in this report are those of the authors and do not necessarily represent the views of Grattan Institute's founding members, affiliates, individual board members, reference group members, or reviewers. Any errors or omissions are the responsibility of the authors.

Grattan Institute is an independent think tank focused on Australian public policy. Our work is independent, practical, and rigorous. We aim to improve policy outcomes by engaging with decision makers and the broader community.

For further information on the Institute's programs, or to join our mailing list, please go to: http://www.grattan.edu.au/.

This report may be cited as: Duckett, S. and Nemet, K. (2019). *Saving private health 1: reining in hospital costs and specialist bills*. Grattan Institute.

ISBN: 978-0-9876359-8-3

Overview

Private health insurance will continue its death spiral unless excessive private hospital costs and specialist bills are reined in.

Insurers are in a vice, squeezed between rapidly increasing costs, and consumers – especially the young and the healthy – who baulk at paying premiums that are rising much faster than their incomes. Almost two thirds of increases in benefits paid out by insurers to members in the past decade are due to escalating hospital costs, partly driven by the ageing of the population. Another one seventh is due to increases in payments to doctors.

A small minority of doctors are greedy – a handful of specialists who bill their patients at more than twice the official Medicare Benefit Schedule fee. Only about 7 per cent of all in-hospital medical services are billed at this rate, yet these bills account for almost 90 per cent of all out-of-pocket medical costs for private hospital patients. Patients are often not told of these costs in advance, and are not happy when they get surprise bills. If these high-charging specialists only billed patients 50 per cent more than the official Medicare Benefits Schedule fee, then patients would save $350 million each year.

Patients have little power to negotiate: they are at their most vulnerable and most trusting when dealing with their specialist. So this egregious billing needs to be challenged by a more powerful entity: the private hospital. Private hospitals should issue a single bill for each patient, covering all the costs of treatment – including doctors' costs – and the hospital should be responsible for informing the patient in advance of any extra costs they will face.

Private hospitals need to lift their game too. They are less efficient than public hospitals; their patients stay 9 per cent longer than public hospital patients with similar conditions. Assuming this 9 per cent stay excess corresponds to a similar cost excess, making private hospitals more efficient would reduce costs by about $1 billion each year and private health insurance premiums by about 5 per cent.

This report recommends a practical way to make these savings. Public hospitals have become more efficient since being paid for treating a patient, rather than for keeping the patient longer, doing more tests, or ordering more drugs. This decades-old system, called activity-based funding, should now be extended to private hospitals. There should be an 'Efficient Price' set for different classes of patients admitted to any private hospital. The Efficient Price should bundle all costs – doctors', hospitals', prostheses, medications, and diagnostic tests. Private hospitals would have to absorb any excess costs from doctors – or charge patients a declared and upfront fee to cover those costs.

Apart from cosmetic surgery, private health insurers have to pay for everything done in private hospitals, whether the treatment is necessary or not. The private health insurers should not have to pay for care that is of no or low value to patients. We estimate that low-value care costs about $1.7 billion a year. We recommend that an independent arbiter rule on what types of care are low value. This could save another $1 billion a year.

In total this report identifies savings of about $2 billion each year. Capturing those savings and passing them on the patients in the form of a 7-to-10 per cent reduction in insurance premiums could save private health care in Australia.

Findings and recommendations

Findings

- A handful of greedy doctors charging more than twice the Medicare Benefit Schedule fee account for the vast majority of out-of-pocket costs private patients pay.
- Private hospital patients stay longer than equivalent public hospital patients.
- More care which is of low value to patients is provided in private hospitals than public hospitals.

Recommendations

- From 2022, private patients should receive a single bundled bill for a hospital admission.
- The bill should be issued by the hospital and include all the costs of the treatment – hospital, diagnostics, prostheses, and doctor costs.
- Private health insurers should pay private hospitals on the basis of a national fee schedule which takes account of the patient's complexity. (This is the way public hospitals are paid now.)
- Patients should choose their medical specialists the same way they do now, but specialists should send their bills to the hospital rather than to the patient.
- Private hospitals should be able to charge patients an extra fee for each day of stay, or an extra bundle fee for the whole stay. These extra fees should cover any extra medical costs charged by specialists. Patients should be told of these fees before they are admitted.
- The Australian Commission on Safety and Quality in Health Care should determine what diagnosis-procedure combinations are low value, and private health insurers should not have to pay for this low-value care.
- The Australian Commission on Safety and Quality in Health Care should determine what diagnosis-procedure combinations are better performed in high-volume settings, and private health insurers should not have to pay for this care in low-volume settings.
- The Independent Hospital Pricing Authority should determine what hospital-substitute programs are effective, and private health insurers should be required to pay for these programs.

Table of contents

List of Figures

List of Tables

1 Why private health care costs too much

Private hospital insurance is facing a death spiral: higher costs are leading to higher premiums, so young and healthy people are dropping their insurance, which forces premiums higher still, thus starting a new round of the spiral.

Most Australians do not have private hospital insurance, and even though the industry gets $6 billion a year in subsidies from taxpayers, the most common reason people cite for not having insurance is cost.[1]

Prompted by Grattan Institute's July 2019 working paper, *The history and purposes of private health insurance*,[2] federal Health Minister Greg Hunt said:

> My goal is to continue to reduce the pressure on health insurance costs, but also to increase the value proposition. You can only do it by actually taking out cost drivers.[3]

This report identifies cost drivers for private hospital care, and questions whether Australians get value for money from private health insurance.[4] Consumers face two problems – their premiums are increasing faster than their wages, and when they use their insurance, they end up being surprised by the bills they receive, especially doctors' bills.

The report shows that doctor greed is a cause of high and sometimes surprising doctor bills. It then details how to slow premium growth by making private hospitals more efficient – by reducing unnecessarily long patient stays in hospital, and reducing the amount of care they provide that is of little or even no value to patients.

The major cost drivers

The major driver of health insurance *premium* increases is increases in benefit outlays. They accounted for 75 per cent of the increase in premiums in the decade to 2017-18. Benefit outlays have principally been driven by the ageing of the population, increased hospital use, and excess health cost inflation.

Benefits per member have been increasing faster than premiums (33 per cent compared to 31 per cent), suggesting private health insurers' gross margins have been squeezed slightly.

As Figure 1.1 shows, by far the major driver of the increase in *benefit* outlays for private hospital insurance – accounting for almost two thirds of the increase in benefit outlays per member over the past decade – is increases in private hospital payments due to increased hospital admissions per member and the increased cost of each admission. Chapter 3 discusses how to reduce private hospital costs. Chapter 5 discusses how to reduce unnecessary private hospital admissions.

The second biggest driver of increased benefit outlays was growth in payments to medical specialists. These accounted for almost 15 per cent of the total inflation-adjusted increase in benefit outlays. The main driver here is not increased use but rather increased bills.

The third biggest driver was growth in prosthesis payments.[5] Australia's regulatory framework for prosthesis pricing is sclerotic and has

1. Australian Bureau of Statistics (2017, table 17.3.) About 61 per cent of people without private health insurance said they 'can't afford it/too expensive'. About 18 per cent said private health insurance was 'not worth it'.
2. Duckett and Nemet (2019).
3. Cited in Australian Medical Association (2019a); see also Hunt (2019).
4. A subsequent Grattan Institute report will recommend strategies to improve the way private health insurance works.
5. Figure 1.1 covers the period 2008-09 to 2018-19. Commencing in 2018 there have been significant drops in the unit costs of prostheses, so, if the number of

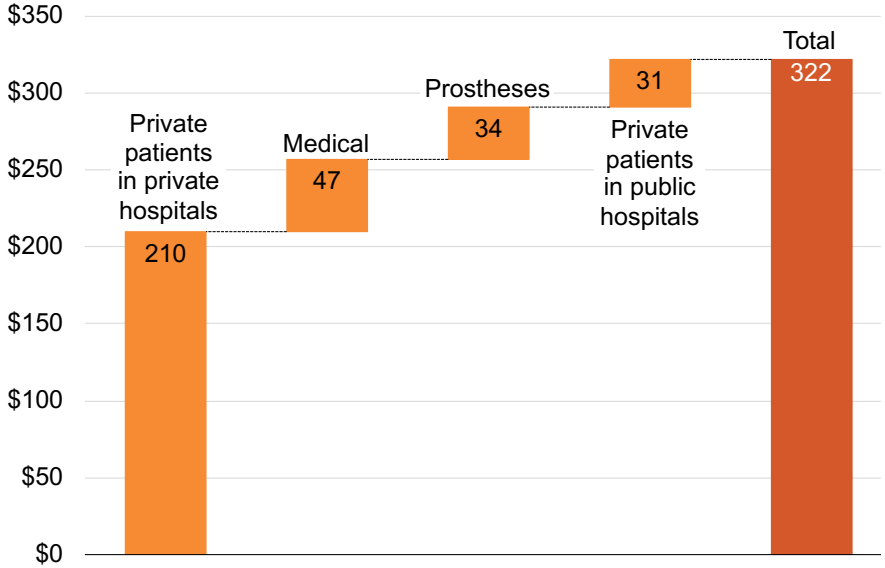
allowed high prosthesis prices compared to other countries. It involves government determining separate prices for more than 10,000 implantable devices and associated items. There are no incentives for surgeons, private hospitals, or device manufacturers to improve efficiency or quality.[6]

Growth in costs associated with private patients in public hospitals accounted for less than 10 per cent of the growth in benefit outlays over the decade. This is a regular focus of the ire of the private health insurance industry and was the subject of a Government discussion paper in 2017, with no subsequent action.[7]

Policy settings for private patients in public hospitals need to be changed, because current Commonwealth funding arrangements effectively rewards states more for admitting a private patient than a public patient.[8] This is perverse and contrary to the intent of Medicare.

Figure 1.1: Private hospital costs are the biggest driver of increases in private health insurance benefit payments

Real change in benefits per member, 2008-09 to 2018-19



Source: Grattan Institute analysis of Australian Prudential Regulation Authority (APRA) private health insurance statistics.

prostheses used in each procedure is unchanged, a more recent time period may show a lower share of cost growth is attributable to prostheses.

6. Duckett (2019a), and discussed further in Appendix D.
7. Duckett (2017).
8. Duckett (2019b).

2 Doctor greed is driving bills higher

Surprising, and surprisingly high, bills are one of the biggest sources of people's dissatisfaction with private health insurance. Even patients with top-level cover are left paying large and unexpected out-of-pocket costs when they use their insurance.[9]

More than one third of private health insurance complaints received by the Commonwealth Ombudsman in 2017-18 were about benefits. The main issues were unexpected out-of-pocket costs, and policies with exclusions.[10]

Most private health insurance policies now have an 'excess' – an upfront payment required when a patient goes to hospital. The maximum excess is currently $750 for a single person and $1500 for a family. People might assume this agreed excess is the maximum payment they are signing up for. In fact, it is a minimum.[11]

Patients often get bills for thousands of dollars from the doctors who treat them, and sometimes they get bills from the private hospital too.[12] These bills are over and above the excess payment. This is unlike the situation for other types of insurance such as car and house contents insurance. Australians are coming to realise that by buying health insurance they are potentially increasing their risk of out-of-pocket costs – the very reverse of what happens in every other insurance market.

2.1 The surprise out-of-pocket costs are for medical bills

A patient incurs an out-of-pocket cost when the fee charged is above the benefits the patient receives from Medicare and their private health insurance fund.[13]

Medical out-of-pocket costs tend to be greater than hospital out-of-pocket costs, particularly for surgical procedures. Table 2.1 shows that in 2017-18 more than half of the surgical Diagnosis Related Groups (DRGs)[14] had an average medical out-of-pocket cost more than twice the hospital out-of-pocket cost.

In 2017-18, the average total bill – including both medical and hospital charges – for a private hospital admission was $4,564.[15] The average patient out-of-pocket cost where a gap was paid was $557 for the medical treatment and $400 for the hospital stay,[16] with the latter gap primarily reflecting the excess the patient signed up for with their insurer.

Insurers have tried to reduce patient out-of-pocket costs through contracting arrangements with doctors (referred to as 'medical gap' schemes). But doctors can charge whatever fees they like and can choose whether to use these schemes. And even if they have signed

9. Consumers Health Forum of Australia (2018); Callander et al (2019); and Gordon et al (2018).
10. Commonwealth Ombudsman Annual Report 2017-18; 34 per cent of private health insurance complaints were about benefits.
11. In rare circumstances it is possible for the total bill to be less than the family maximum deductible.
12. When these bills are issued without any form of prior consent from patients, hospitals and doctors might be on dubious legal grounds to pursue recovery of unpaid bills.
13. This section looks only at out-of-pocket costs associated with admitted care, not out-of-pocket costs associated with attending a private hospital emergency department.
14. DRGs classify patients into about 800 groups of patients who are similar in terms of their clinical characteristics and the resources used to treat them: Fetter (1991).
15. This refers to the average overall charge per admission for all private hospital admissions (both day and overnight): Department of Health (2019a). Refer to Table 2.1.
16. Department of Health (ibid). Refer to Table 2.2.

up to a medical gap scheme with an insurer, doctors can still decide to bill individual patients outside the scheme.

Some doctors also bill for 'booking fees' on top of any procedure or consultation fees. These fees are usually billed in the doctor's rooms and so are not covered by private health insurance agreements with the doctors.[17] These fees are generally not covered by Medicare and not captured in data about hospital billing. These covert fees – not recoverable from private health insurance or Medicare – lead to further patient dissatisfaction, disillusionment with their private cover, and complaints. They are 'not supported' by the Australian Medical Association.[18]

Only about one quarter of specialists' services are charged at the Medicare schedule fee or below (see Table 2.2 and Figure 2.1). Many doctors feel this government-determined fee is not fair, possibly because it has not been consistently indexed with inflation.[19] More than two thirds of services are charged up to 50 per cent above the schedule fee.

Table 2.1: In 2017-18, the big hospital out-of-pocket costs (OOPs) were for medical bills

Ratio of doctor to hospital OOPs	Surgical	Obstetrics	All other admissions	Total
Doctors' bills more than twice hospital bills	72	0	0	72
Doctors' bills up to twice hospital bills	64	0	3	67
Doctors' bills less than hospital bills	17	5	33	55
Total	153	5	36	194

Notes: The data shows the number of Diagnosis Related Groups (DRGs) for overnight stays, where the average total gap paid was greater than $750, and where at least 90 per cent of stays had a medical component. The analysis is limited to DRGs with 500 or more stays. The average total gap paid is the sum of the average hospital gap payment (per stay) where gap was paid, and the average gap payment (per stay with medical component) where gap was paid.

Source: Department of Health (2019a).

Table 2.2: In 2018-19, almost 70 per cent of all inpatient medical services were billed at less than 150 per cent of the MBS

Amount charged per service by MBS fee range	Number of services ('000)	Total gap ($'000)	% of services	Average amount charged as % of MBS
$\leq$ MBS	9,739	332	25	100
To 125% MBS	6,304	4,571	16	117
To 150% MBS	10,755	11,596	28	137
To 200% MBS	9,531	68,157	24	168
>200% MBS	2,576	684,840	7	305
Total	38,905	769,496	100	156

Notes: MBS is Medicare Benefits Schedule. Does not include any booking fees or management fees charged by the doctor before the patient is admitted to hospital.

Source: APRA medical gap statistics for 2018-19.

17. Private health insurance cannot cover out-of-hospital medical care.

18. Australian Medical Association (2019b, p. 5).

19. This reasoning assumes that fees at some previous time were fair. Doctors are high earners in Australia, with lifetime earnings 50-to-100 per cent higher than other university graduates: Norton et al (2018, Figure 10.6); and medical practitioners occupy five of the top six places in the ranking of average taxable income in 2016-17: Australian Tax Office (2019, Chart 5).

The rates offered by private health insurers are higher than the MBS schedule and vary between procedures and among funds. For a hip replacement, for example, Medibank's fee is about 50 per cent higher than the MBS fee, and BUPA's is about 85 per cent higher than MBS.

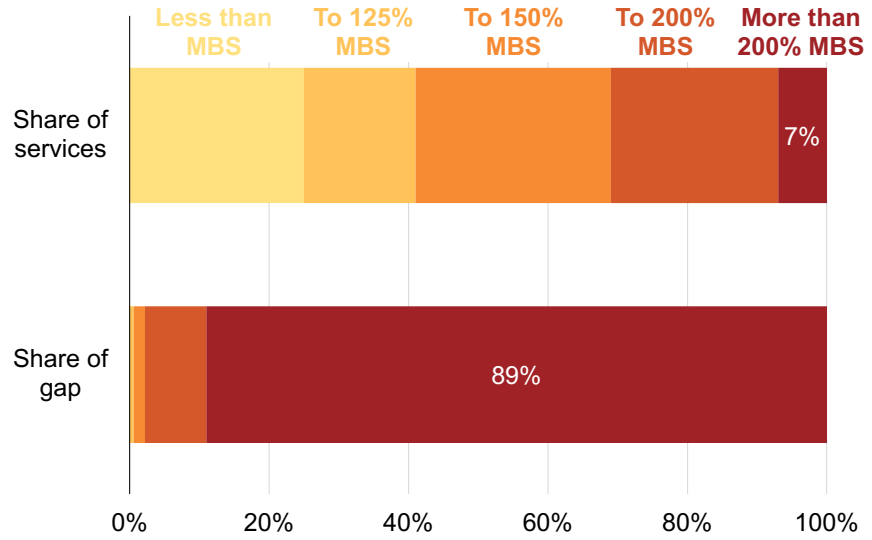
A small proportion of services (7 per cent) are charged at more than twice the Medicare schedule. For these services, the average amount charged is more than three times the Medicare fee.[20] This small number of highly-billed services account for almost 90 per cent of all medical gaps.

Leaders of the medical profession have consistently railed against what they referred to as 'egregious' billing – but typically only when a particularly outrageous example hits the headlines.

To some extent it is fair that specialists with demonstrably better skills than their colleagues in the same specialty should charge more. But since the public has no access to information about relative skill, such as complication rates after taking account of the complexity of the patient, it is hard to justify the higher fees that are charged.[21] Higher fees are more prevalent in some locations than others, suggesting that the higher fees are nothing to do with either skill or the adequacy of the Medicare Benefits Schedule, but rather are more about what these doctors think the market can bear.[22] We suggest that the small minority of specialists who charge more than twice the schedule fee are simply being greedy.

Figure 2.1: Seven per cent of inpatient medical services account for 89 per cent of all medical gaps

Share of total gap and total services in each fee bracket relative to the MBS schedule fee



Source: APRA medical gap statistics for the 2018-19 financial year.

20. The number of doctors charging more than twice the MBS fee is not reported in the published data used in Table 2.2. But analysis of a sample of MBS in-hospital claims for 2013-14 shows that only 6.4 per cent of doctors consistently – that is, in more than 70 per cent of their services – charge more than twice the MBS fee.
21. This also means that specialists themselves probably don't know their relative skill.
22. Although 7 per cent of all services nationally were billed at more than twice the MBS schedule fee, the rate was 17 per cent in the ACT.

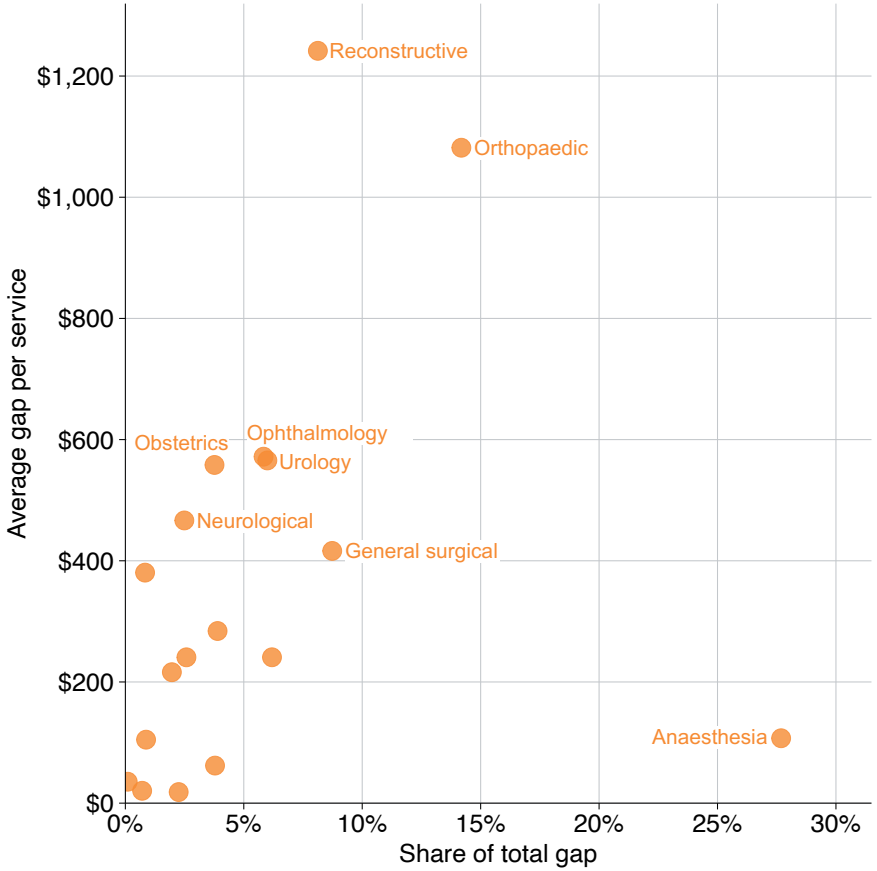
The size of out-of-pocket costs varies considerably between specialities. Figure 2.2 shows that the average gap per service, for services where there was a gap, ranged in 2018-19 from $1,081 for orthopaedic surgery to $18 for pathology services.[23]

Out-of-pocket costs associated with the principal specialist are not the only such costs a patient faces. In the case of hip replacements, for example, in addition to the surgeon there are on average more than three other specialists who bill the patient, including the anaesthetist, the assistant, radiologists, pathologists, and physicians who may be asked to assess and treat the patient before or after surgery.[24]

The fees charged by specialists vary considerably.[25] The seven specialties with average out-of-pocket costs of more than $400 for each service – reconstructive and plastic surgery, orthopaedic surgery, ophthalmology, obstetrics,[26] urology, neurosurgery, and general surgery – account for more than half of all out-of-pocket costs.

Although the average out-of-pocket costs for each anaesthetic service is relatively low ($107), because of the frequency of anaesthesia these out-of-pocket costs account for more than one quarter of all gap payments.

Figure 2.2: Out-of-pocket costs vary significantly between doctors
Average gap per service, where there was a gap, by speciality, and speciality share of total gap for financial year



Notes: Average gap per service is based on services where a gap was paid within specialty. Share represents the total gap for each specialty as a proportion of the total gap for 2018-19.

Source: APRA private health insurance medical services statistics, June 2019.

23. Grattan analysis of Australian Prudential Regulation Authority (2019a). Charging practices vary where a specialist bills for multiple items in a single operation. The specialist may load all of the excess on to a single item, or may spread the excess across multiple items. The reported data does not allow analysing these different reporting practices.
24. The data are from the 10 per cent MBS and PBS file for 2013-14. Calculated as mean of all providers billing for in-hospital services in the 10 days following index event (hip replacement surgery); mean total providers = 4.21, standard deviation = 1.21.
25. McRae and van Gool (2017).
26. The obstetric fees are in addition to any out-of-hospital out-of-pocket costs, or management fees charged by obstetricians. Obstetricians' fees were restructured to take advantage of Medicare Safety Net arrangements: van Gool et al (2009).

Recent studies have suggested that specialists practice price discrimination, charging different prices for the same service based on what they think their patients can afford.[27] Doctors may also increase their prices if they believe a patient has a greater entitlement to benefits.[28]

If high-charging specialists charged fees at 50 per cent more than the MBS schedule fee rather than more than double the MBS fee, then patients would have saved more than $350 million in 2018-19.

Patients with conditions requiring multiple services incur higher out-of-pocket costs

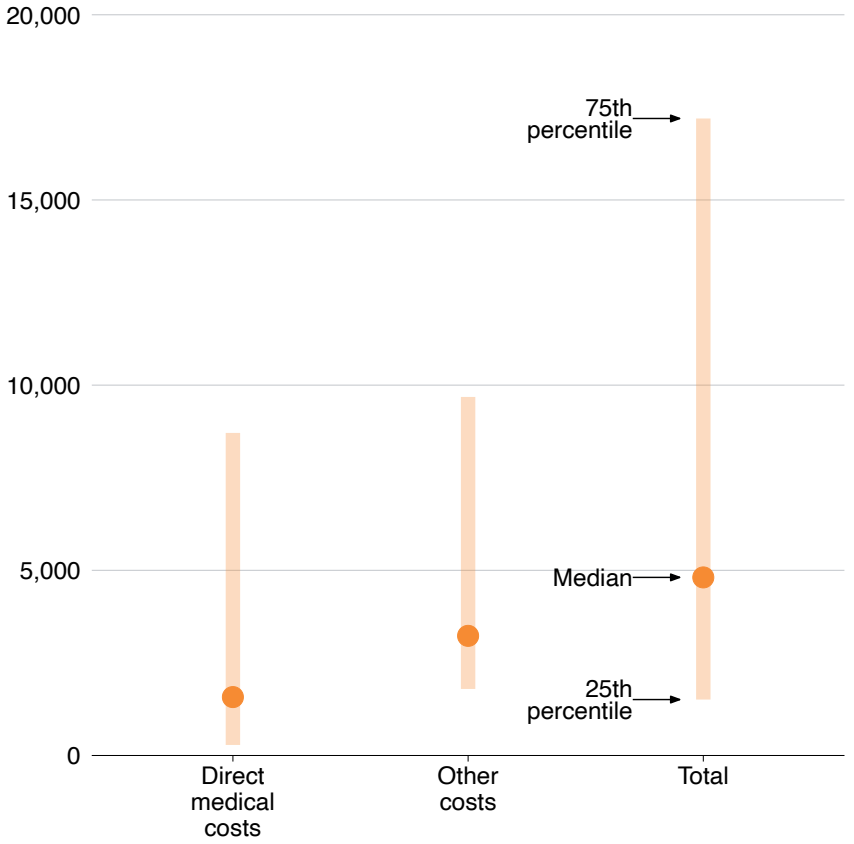
People with chronic conditions such as cancer may require multiple hospital admissions over the course of their treatment. For these people, out-of-pocket costs can add up very quickly.

Patients receiving treatment for cancer often incur more than $10,000 in out-of-pocket costs.[29] One survey of breast cancer patients found that women typically incurred out-of-pocket costs of $4,809 in the first five years after a diagnosis, with most of the costs incurred within the first two years.[30] But the costs vary considerably between patients.

Figure 2.3 shows the overall median cost and range reported for women who faced out-of-pocket costs. Reconstructive surgery, radiotherapy, specific pathology tests, genetic tests, and MRIs incurred the highest out-of-pocket costs.

Figure 2.3: The out-of-pocket costs for women with breast cancer are significant

Median out-of-pocket costs, $, and interquartile range, 25th to 75th percentile, for women diagnosed with breast cancer



Notes: Chart shows the overall median cost and interquartile range, for women who reported direct medical and other out-of-pocket costs, based on a sample of 1,919 respondents. 'Direct medical costs' include costs associated with specialist consultations, various tests, and treatment. 'Other costs' included out-of-pocket costs reported for indirect cost items associated with breast cancer such as travel costs, accommodation, allied health, and complementary medicines.

Source: Adapted from Deloitte Access Economics (2016, Chart 5.1).

27. Johar et al (2017).
28. It has also been suggested that some doctors may engage in the practice of charging a second, separate bill – often referred to as a 'booking fee' or a 'split bill' for medical services: Yu et al (2019).
29. A Consumer Health Forum survey found that more than a quarter of respondents having treatment for cancer incurred costs of more than $10,000 in the past two years: Consumers Health Forum of Australia (2018).
30. Deloitte Access Economics (2016).

One quarter of cancer patients had out-of-pocket costs of more than $17,000.

The survey also found that women with private health insurance (PHI) not only paid higher out-of-pocket costs, but also appeared to receive more medical services than those without PHI. The median direct medical out-of-pocket cost for women with PHI was 10 times more than the out-of-pocket cost for those without PHI ($3,723 compared to $355).[31] Women with PHI also paid out-of-pocket costs for a larger share of services than those without – 57 per cent compared to 26 per cent.

Patients often set out on a private treatment pathway with no understanding of the likely total cost of treatment as a private patient, and often don't realise that they have the option to be treated as a public patient. A patient's decision about private or public treatment is often influenced by whether the diagnosis is delivered in the private or public system, whether they have private health insurance, and the likely delay in obtaining treatment in a public hospital.[32]

A patient's initial choice of pathway – public or private – is generally made in ignorance of what treatment will be needed in the months or years ahead.[33] This makes it impossible for the patient to make an informed decision about the costs they are committing themselves to incurring.

31. Ibid (Chart 5.3).
32. Aubusson and Cunningham (2019), Collared (2017) and Medew (2013). The actual delay for treatment in the public sector may vary according to the patient's clinical circumstances and may be well less than any estimate provided by the specialist or on public websites.
33. In our view, not telling a patient about the public alternative to private care is unethical: Duckett (2018).

Hidden costs cause surprises

The complexity of the current arrangements makes it difficult for patients – including even those on a simple treatment pathway – to estimate at the start of their treatment what they will eventually have to pay. Patients will often receive multiple bills for a single episode of care. Bills may include costs for multiple doctors, including surgeons, their assistants, anaesthetists, pathologists, and radiologists. The final out-of-pocket cost may not become clear until sometime after treatment, with surprise bills running into the thousands of dollars.[34]

A lack of clear information about the total cost of treatment – including the fees charged by doctors, any costs covered by PHI and Medicare, and the range of services that might be required – means that patients are often not fully informed about their obligations until after treatment.

Patients often have no say in who might assist in an operation, nor are they offered real choices about which other doctors should be involved in their treatment. In some cases, patients may not be aware of the other doctors (such as the anaesthetist, the assistant surgeon, consulting physicians, or intensive care specialists) or corporations (pathology and radiology companies) involved in their treatment until the day of treatment or even after treatment. As a consequence, patients have little or no ability to negotiate or shop around to lower their out-of-pocket costs.

Complex contractual arrangements between specialists, hospitals, Medicare, and insurers add to the confusion. Even with insurance coverage initially simplified into Gold, Silver, Bronze, and Basic packages,[35] consumers may not know what they have coverage for.[36]

34. Consumers Health Forum of Australia (2018).
35. See Department of Health (2019b). Detailed specifications of procedures by level are included in the *Private Health Insurance (Reforms) Amendment Rules 2018*, which few, if any, consumers will ever read.
36. The addition of + designations to Basic, Bronze, and Silver packages has added to consumer confusion: see Richard (2019) and Mihm (2019). The high degree of

Consumers also may not know what is meant by the 'excess' they signed up for with their private insurer.[37]

Doctors have an ethical and professional obligation to disclose costs of treatment to patients. Professional standards for financial consent are included in the various codes of conduct, which instruct doctors to 'ensure patients are informed about your fees and charges', and to be 'transparent in financial and commercial matters'.[38] But a breach of these codes may not result in sanctions:[39] we are not aware of any legal case considering doctors' obligations for informed financial consent.[40]

Doctors have a legal duty to give patients information about the risks and benefits of their treatment – referred to as 'informed consent'.[41] But this legal duty does not explicitly extend to information about the costs of treatment.[42]

In July 2019, the AMA released a new guide for doctors and patients. It aims to educate patients by ensuring they are provided with information on fees and medical gaps. It includes questions for patients to ask their doctors about costs, and a checklist for doctors and patients to complete together.[43] But there is no obligation on the specialist to initiate fee discussions using the guide, so the onus is on the patient to start the conversation.

The federal Minister for Health has also promised a website to improve the transparency of specialist fees,[44] or more precisely, the fees of the main consultant. There is no clarity yet about the extent to which the fees of other specialists involved in a patient's treatment (e.g. anaesthetists) will be disclosed. The other specialists in the treatment team may not be known at the time the patient selects the main specialist.

The Government hopes the website will provide patients with information on MBS benefits, insurer gap payment arrangements, as well as the doctor's maximum fee and the most common out-of-pocket costs for treatment. But participation by doctors is voluntary, and it remains to be seen if the website will have the desired effect.

Greater fee transparency would enable consumers to make better-informed decisions about their care. But there is a risk that it may also have an inflationary effect on fees, by informing providers of the price the market will bear.[45] A lack of data on the quality of care means that, even if price information is available, patients are unable to determine if paying higher fees will mean they get a higher-quality service.[46]

Guides and websites, while welcome, are unlikely to have a significant impact on out-of-pocket costs. The difference in power and information between patients and doctors, combined with complex funding arrangements for services, make it difficult for the patient to minimise their out-of-pocket costs.

inertia in the private health insurance market may also contribute to consumers not keeping up-to-date about what is covered by their insurance: Doiron and Kettlewell (2018) and Stavrunova (2019).

37. Consumers Health Forum of Australia (2018).
38. Medical Board of Australia (2014, Clause 3.5.3); and Royal Australasian College of Surgeons (2016, p. 14).
39. Desai and Davoren (2018).
40. In fact informal inquiries we have made of legal academics did not unearth any cases about informed financial consent in any area.
41. *Rogers v Whitaker (1992) 175 CLR 479.*
42. Desai and Davoren (2018).
43. The Federal Government and the AMA launched the new guide for Informed Financial Consent on 23 July 2019: Department of Health (2019c) and Australian Medical Association (2019b).
44. Hunt (2019); and Ministerial Advisory Committee on Out-of-Pocket Costs (2018).
45. In addition to inflating the distribution of fees between providers, there is also the risk of compressing the within-provider distribution of fees.
46. McRae and van Gool (2017).

The current system leaves patients exposed to high and surprising out-of-pocket costs. The Government doesn't control doctors' fees, private health insurers can't negotiate deals with every doctor in the country, and private hospitals don't see it as their job to manage the fees of doctors who use their facilities.[47] Patients often can't really exercise choice of doctor because they feel locked in to the referral path recommended by the GP or other specialist.[48]

The preconditions for a market to work efficiently – good information for consumers and the ability to shop around – are not there. In the face of this market failure, exhibited by high and unexpected bills, more dramatic change is required. We suggest such a change in Chapter 4.

47. Private hospitals may feel that competition law precludes them from negotiating fees with the doctors they allow to use their facilities; that is, that the hospital would be facilitating anti-competitive behaviour of doctors. But such negotiations may be an effect of competition – to improve the competitive position of the private hospital.
48. Patient choice is even more constrained outside capital cities.

3 Private hospitals need to be more efficient

If private hospitals were more efficient than public hospitals, there would be good policy grounds for subsidising them. But if they are not, then it is generally not good policy to subsidise them.[49]

The conventional wisdom is that private hospitals are indeed more efficient than public hospitals.[50] This view is usually supported only by anecdotes from surgeons who work in both sectors.

In this chapter we demonstrate that the anecdotes are not supported by the data.

3.1 Length of stay differences between private and public hospitals

Surprisingly, there have been few rigorous comparisons of the efficiency of the public and private hospital sectors. The most rigorous study is now dated, and looked at only one state.[51] Other studies have not directly addressed the question,[52] or came to inconsistent results, possibly because of data errors.[53] More detail on this literature is in Appendix A.

The conventional wisdom that private hospitals are more efficient is supported by a superficial examination of the published data – patients in public hospitals seem to stay longer than patients in private hospitals (see Table 3.1).[54]

But the data in Table 3.1 are not comparing apples with apples – they do not take account of the different types of patients treated in public and private hospitals (the 'casemix').

As a consequence, these raw figures present a misleading picture of the true difference in length of stay.

Table 3.1: Patients in public hospitals stay longer than patients in private hospitals
Average length of stay (LOS), days, public and private hospitals

		2015-16	2016-17	2017-18
All patients	Public	3.2	3.2	3.0
	Private	2.2	2.2	2.2
Excluding same-day patients	Public	5.7	5.7	5.4
	Private	5.2	5.2	5.2

Source: Australian Institute of Health and Welfare (2019a).

49. It is arguable that subsidies are also justified if the budgetary savings to the public system exceed the budgetary cost of the subsidies: Duckett and Nemet (2019). This issue will be explored further in our next report.
50. This chapter and the next deal with efficiency in the sense of cost of treating a patient. Another aspect of cost, which also drives private health insurance premiums, is the utilisation rate. This issue is dealt with in Chapter 5.
51. Butler (1995).
52. Chua et al (2011); and Chua et al (2008).
53. Productivity Commission (2009); Productivity Commission (2010); and Forbes et al (2010).
54. We are emphasising efficiency here in terms of length of stay. We acknowledge that there may be dimensions of efficiency where private hospitals are more efficient than public hospitals (e.g. theatre utilisation) but, as we show below, total cost and length of stay are highly correlated.

Table 3.2: Hip replacement patients stay longer in private compared to public hospitals when you take urgency into account
Average length of stay (LOS), days, hip replacement diagnosis related groups, 2016-17

		Total		**Elective**		**Emergency**	
		Number of cases	LOS	Number of cases	LOS	Number of cases	LOS
I03A Hip Replacement **with** catastrophic comorbidities or complications	Public	3,247	10.21	1,467	7.60	1,710	12.28
	Private	1,536	9.72	1,301	8.44	220	17.34
	All hospitals	4,783	10.10	2,768	7.99	1,930	12.90
I03B Hip Replacement **without** catastrophic comorbidities or complications	Public	14,352	5.17	9,702	4.19	4,519	7.20
	Private	19,764	5.04	18,649	4.81	1,013	9.20
	All hospitals	34,116	5.09	28,351	4.60	5,532	7.57
Total	Public	17,599	6.10	11,169	4.64	6,229	8.59
	Private	21,300	5.38	19,950	5.05	1,223	10.65
	All hospitals	38,899	5.70	31,119	4.90	7,462	8.93

Note: A small proportion of admissions do not have a coded value for elective/emergency, so not all values will add up perfectly.

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

3.1.1 Hip replacements

Table 3.2 on the preceding page shows that the *total* length of stay for patients having hip replacements is shorter in private hospitals (5.38 days) than public hospitals (6.10 days). Indeed, for each hip replacement DRG, patients in private hospitals have a shorter unadjusted length of stay.

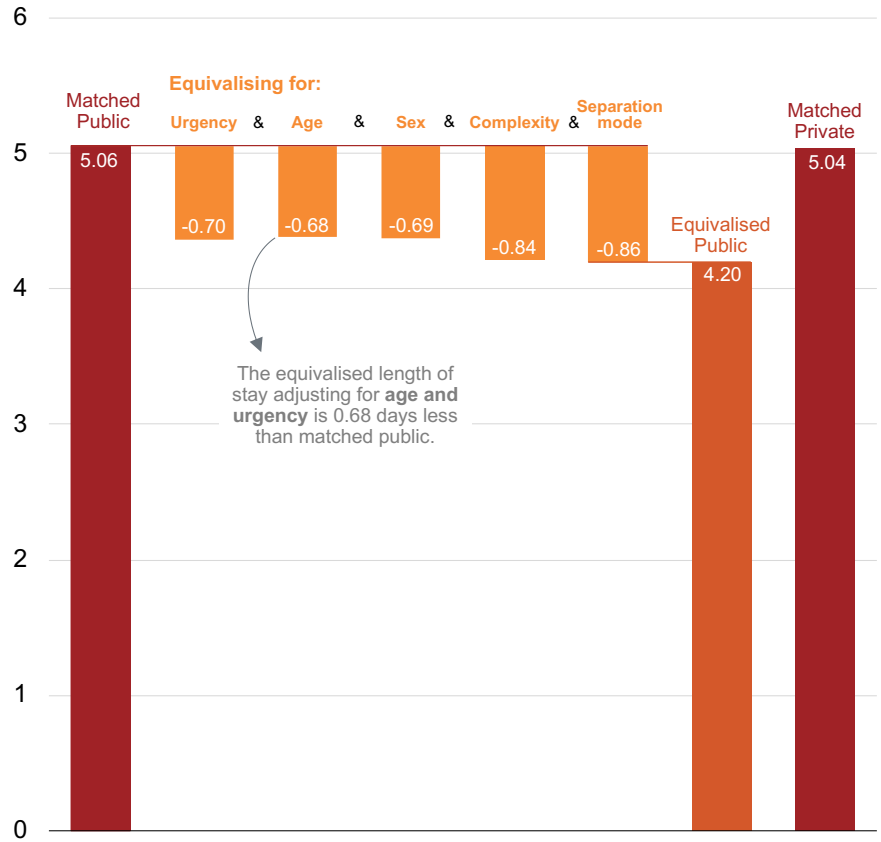
However, patient length of stay is affected by whether the hip replacement was done as an emergency or as a planned (elective) procedure. Because public and private hospitals admit different proportions of elective and emergency patients, that must be taken into account to ensure a fair comparison. Once this is taken into account, public hospitals have a shorter length of stay for both elective and emergency patients in both hip replacement DRGs.

Other attributes of patients might also affect length of stay, such as their age, gender, and the other diagnoses they have on admission to the hospital ('within-DRG complexity').[55] Private patients have a very different pattern of use of rehabilitation programs and so discharge destination ('separation mode') also needs to be taken into account.[56]

Figure 3.1 shows the impact on length of stay of taking account of different factors for the most common hip replacement DRG, I03B Hip Replacement without catastrophic comorbidities or complications.

Once adjustments are made for urgency and other complexity factors, patients in private hospitals stay almost a day longer than similar patients in public hospitals (5.04 days compared to 4.20 days).

Figure 3.1: Public hospital hip replacement patients have a shorter length of stay once patient attributes are considered
Incremental impact of adjusting for various factors on length of stay, days, 2016-17



Notes: Simple hip replacement refers to operations coded as I03B Hip Replacement without catastrophic comorbidities or complications. 'Equivalised public' means what the length of stay in public hospitals would be if they had the same casemix as private hospitals.

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

55. We measured complexity using a modified form of the Multipurpose Australian Comorbidity Scoring System (MACSS): Holman et al (2005). Our modifications are described in Duckett et al (2018a).
56. Transfer to a rehabilitation program may not affect a patient's outcome: Schilling et al (2018) and Naylor et al (2017).

3.1.2 Maternity care

The situation is slightly different for maternity care. Length of stay for maternity care is also longer in private hospitals than public hospitals, but not because of complexity differences.

Table 3.3 shows the length of stay for the three vaginal delivery DRGs. Stays in private hospitals are 1-to-2 days longer than stays in public hospitals, and the difference is not affected by within-DRG complexity differences.

Additional length of stay has no significant impact on maternal or perinatal outcomes,[57] and so the differences are probably due to consumer preferences – part of what they may see as the 'value proposition' of private care.

3.1.3 The overall length of stay picture

These casemix and value proposition differences illustrated for hip replacement patients and maternity care apply across all other types of patients.

Using data from 2016-17 on every patient discharged from every hospital in Australia – public or private – we grouped patients into like categories based on their DRG and within-DRG variation for factors such as admission status (elective or emergency), age, gender, other complexity factors not taken into account in DRGs, and discharge destination.[58]

Across our whole dataset, which consists of more than 11 million discharges from hospitals, the *unadjusted* average length of stay for private hospital patients is 2.09 days and for public hospital patients is

Table 3.3: Average length of stay (LOS), vaginal delivery DRGs, public and private hospitals (days), 2016-17

DRG	Hospital sector	Number of cases	LOS
O60A Vaginal delivery **with** catastrophic or severe comorbidities or complications	Public	25,129	3.67
	Adjusted Public		3.69
	Private	4,422	4.96
O60B Vaginal delivery **without** catastrophic or severe comorbidities or complications	Public	66,838	2.45
	Adjusted Public		2.39
	Private	18,096	4.22
O60C Vaginal delivery single uncomplicated without other condition	Public	62,029	1.77
	Adjusted Public		1.73
	Private	14,472	3.71
Total	Public	153,996	2.38
	Adjusted Public		2.28
	Private	36,990	4.11

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

57. Brown et al (2004).
58. Our approach is described in Appendix B.

2.27.[59] For overnight patients the lengths of stay are 4.74 for private hospital patients and 4.05 for public hospital patients.[60]

But after complexity is taken into account, so we are comparing like with like, the public hospital length of stay falls to 1.92 days for all patients and 3.94 for overnight patients.

Figure 3.2 shows the difference in length of stay for all patients between public and private hospitals after taking into account these differences in complexity.

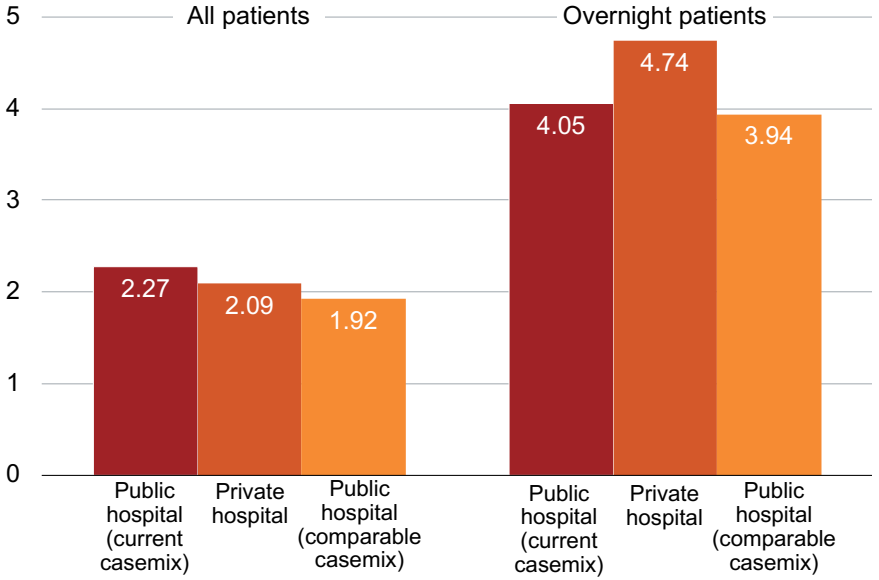
In fact, private hospital patients stay about 0.17 days longer than public hospital patients, a difference of 9 per cent. For overnight patients, private patients stay almost one day longer, a difference of 20 per cent.

These small differences in averages add up to large differences overall. If patients in private hospitals had the same length of stay as similar patients in public hospitals, then more than 706,000 bed days – the equivalent of almost 2000 beds a day – could be saved in private hospitals.

We have reported here an analysis of the average across all private hospitals. Our data does not allow us to look at variation among private hospitals, but a previous study showed significant inter-hospital variation, with the average length of stay in the hospital with the highest average being more than 25 per cent above the hospital with the lowest average.[61]

Figure 3.2: Public hospitals have a shorter length of stay once complexity is taken into account

Length of stay for matched patients (days)



Note: Length of stay is for patient groups which are represented ('matched') in both public and private hospitals.

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

59. These averages are for 'matched cases', that is removing cases for which there are no similar cases in both sectors. The average length of stay for all cases is 2.15 in private hospitals and 2.76 in public hospitals. See the discussion of our standardisation approach in Appendix B.
60. Again, these averages are for 'matched cases'. The average length of stay for all overnight cases is 4.95 in private hospitals and 4.77 in public hospitals.
61. After adjusting for casemix, see Hanning (2007).

As we showed in Chapter 1, increases in private hospital costs are a major driver of increases in private health insurance premiums. One way of slowing the rate of growth in premiums is to make private care more efficient, including by reducing patients' length of stay.

Of course, length of stay reductions can go too far, potentially increasing readmission rates.[62] But private insurers are uniquely placed to monitor the impact on their members of this risk, because they have fully linked data on all patient admissions of their members.

Savings could be achieved not only by reducing length of stay for private hospital overnight patients – where patients stay a day longer than similar public hospital patients – but also by increasing the proportion of same-day activity by converting overnight patients to same-day where it is clinically safe to do so.[63]

This latter strategy is likely to yield larger proportional savings than a reduction in the length of stay. Further, as hospitals and insurers focus on length of stay, hospitals with high average length of stay will move closer to the industry average, driving down the industry average, yielding further efficiencies.

3.2 Cost differences

Translating length of stay savings into cost savings is not easy because we do not have comparable cost information for public and private hospitals at a level that enables us to standardise for complexity. But there is a very strong relationship between length of stay and costs; indeed, length of stay explains about 70 per cent of the variation in costs.[64]

Just as average unadjusted length of stay is lower in private hospitals across all patients, so too the average unadjusted DRG-specific costs are lower than public hospitals.[65] Adjusting for within-DRG complexity differences is likely to reveal similar cost differentials between public and private hospitals as for length of stay.[66]

If cost differences between public and private hospitals mirror the length of stay differences we found after adjusting for complexity, then private hospital insurers and patients are paying private hospitals overall 9 per cent too much, about $1 billion of potential savings.

3.3 The private sector value proposition

Private hospitals do not face the same demand pressure as public hospitals. Private hospitals can therefore take a more relaxed approach to discharge planning. As a result, patients stay slightly longer in a private hospital for the same condition. This is clearly the case for maternity care.

We have no information about whether this slightly more relaxed approach to discharge leads to reductions in readmission rates.[67] The Australian Institute of Health and Welfare should fill this knowledge gap by publishing more data about readmission rates.

62. Unfortunately there is inadequate data on readmission rates. Data held by the Australian Institute of Health and Welfare does not include a unique identifier for patients, and so publicly reported readmission rates are understated because in many cases only readmissions to the same hospital are counted.
63. We highlight an opportunity for this, for patients receiving hip replacements, in the next chapter.
64. The regression results underlying this estimate are in Appendix B.
65. The actual comparison is DRG-specific charges in private hospitals compared to DRG-specific average costs in public hospitals because of the different data sources used for this comparison.
66. See Appendix B.
67. The Australian Institute of Health and Welfare publishes readmission rates for public hospitals but not private hospitals, see Australian Institute of Health and Welfare (2019a).

The more relaxed approach to discharge may be seen as part of the private hospital value proposition.[68] That is, patients may expect to stay slightly longer in a private hospital, and they see this as part of what they are paying for. In those circumstances, these extra days are purely a private benefit. They do not reduce demand on public hospitals, and they drive up the cost of private health insurance, causing unnecessary costs to other people paying premiums and also to taxpayers through the premium subsidies.[69]

3.4 Conclusion

Taxpayers' funds should not be used to underwrite inefficient or discretionary private hospital care. Private health insurers should be placing pressure on private hospitals to reduce their length of stay to bring it more into line with the public hospital length of stay.

If private hospitals could be made more efficient, premium increases could slow, and more people might be attracted into private health insurance. This offers the hope of a new virtuous cycle of lower premiums and increased membership. How this should be made to happen is discussed in the next chapter.

68. The second most common reason for having private health insurance – after 'security/peace of mind' – is 'allows treatment as private patient'. About 50 per cent of people with health insurance cited this as a reason for having private insurance: Australian Bureau of Statistics (2017, table 17.3.).
69. Patient expectations of length of stay can be affected by what they are told before surgery. Strategies designed to reduce length of stay should be accompanied by strategies to change patient expectations of how long they will normally stay after surgery.

4 Patients should get one bundled bill

For more than 25 years the public sector has embraced payment systems to encourage efficiency in public hospital care.[70] This involves setting a price which covers all aspects of the patient's care – days of stay, theatre costs, prostheses, medical costs, and everything else.

We propose this 'single bill' approach be extended to payment for private hospitals.

We propose that the single bill be managed by the hospital. An alternative approach could be for the single bill to be managed by the lead medical specialist, somewhat similar to the *nib* 'clinical partners' program which guarantees no out-of-pocket costs for hip and knee replacements for procedures performed by participating specialists.[71]

Our aim is to have a single party accountable for clinical and financial decisions and the achievement of desired clinical outcomes – 'one throat to choke' was how one person we consulted colourfully phrased it. We suggest that the single bill be managed by the hospital, because it has greater management capacity, and clinical governance capacity to improve clinical outcomes. This would benefit patients and further reduce costs.

Payments would be made to the hospital at an 'Efficient Price', covering all costs, with the maximum out-of-pocket costs to be paid by the patient agreed upfront.

4.1 An 'Efficient Price' for private hospital care

Under the national public hospital payment arrangements, the Commonwealth Government pays 45 per cent of the costs of growth in public hospital services, at the so-called National Efficient Price. The National Efficient Price is set by an independent arbiter, the Independent Hospital Pricing Authority. The Authority specifies a price for each DRG, essentially at the current average cost of care. Because it is set at the average, as high-cost hospitals reduce their costs, the average is driven down over time[72] and this partially offsets factors such as inflation and new technology which are driving up costs. It is clearly a major driver of improved efficiency.[73]

Many health insurers have now adopted DRGs as the basis for paying private hospitals, or announced their intention to do so. But they often use different versions of DRGs,[74] or tweak the DRG classification so that one insurer's 'DRG' may not be the same as another's. This adds to private hospitals' administrative complexity and overhead costs.

We recommend that private hospitals be paid by private health insurers based on the patients they treat, using the national standard DRG classification system.[75] The Independent Hospital Pricing Authority should determine an Efficient Price for private hospitals.[76]

70. Duckett (1995).
71. See *nib*'s description of clinical partners at https://www.nib.com.au/the-checkup/health-cover/planning-a-hip-or-knee-replacement.
72. States rarely allow more efficient public hospitals to relax their vigilance and increase their costs to the average. Following the experience with public hospitals, the private hospital Efficient Price should initially be set at the industry average, but over time the Efficient Price might also be set on a normative basis to drive international best practice in patterns of care.
73. We have argued previously that the states should set a lower price than the average when paying public hospitals: see Duckett et al (2014).
74. DRG versions are updated regularly by the Independent Hospital Pricing Authority.
75. We recognise that health insurers may have to smooth payments – in the transition from one version of DRGs to another – either because of their contract obligations, or to ensure no precipitate changes for individual private hospitals.
76. The private hospital Efficient Price should include depreciation, which is not included in the public hospital price, and it should also take into account the different casemix of public and private hospitals, particularly the different

The Government should require insurers, as part of premium subsidy and surcharge arrangements,[77] to use the private hospital Efficient Price as a minimum payment for the admissions of all patients with coverage.[78]

Adoption of an Efficient Price would drive out waste and inefficiency in private hospital care and, over time, eliminate the excess length of stay in private hospitals. This should lead to reductions in private health insurance premiums of about 5 per cent.[79]

Other than their agreed excess payments, there should be no out-of-pocket costs for patients for private hospital care, except where the hospital markets itself as providing higher levels of amenity.[80] These additional charges should be based either on a bed-day basis or a whole-of-stay basis, so patients have certainty about expected costs.[81]

Amenity, comfort, and friendliness of staff does vary among private hospitals and is more easily observed by patients (and prospective patients) than the quality of medical care. In an efficient market, whether the additional amenity is worth it should be a matter of patient choice.[82] Private health insurers could be expected to aim to negotiate agreements with private hospitals to eliminate out-of-pocket costs altogether.

Private health insurers could still provide additional 'pay for performance' payments under preferred-provider arrangements linked to clinical outcomes (see Box 1 on the next page).[83] Private health insurers should be able to reduce the payment to hospitals below the Efficient Price if the hospital's care falls short on agreed metrics.[84] Patients' agreed up-front payments (the 'excess') should reduce the insurer's Efficient Price payments.

4.2 Encouraging new ways of delivering care

Improving efficiency of private hospital care is not just about bringing length of stay in private hospitals down to the contemporary public hospital average. New technology and new approaches to treatment are leading to dramatic changes in length of stay for several elective procedures. For example, the current length of stay for elective hip

proportion of elective and emergency patients. Increased use of DRG payment in the private sector may require some changes to the DRG classification to take account of this within-DRG casemix difference. Day procedure centres should be paid at the Efficient Price for the lowest DRG in an adjacent DRG cluster, to encourage proper case selection and avoid potential gaming of coding. The Independent Hospital Pricing Authority already collects costs data from private hospitals but, unlike the data it collects from states and public hospitals, this is a voluntary collection. The Authority should have the power to require private hospitals which participate in the new funding arrangements to supply data.

77. There is a public interest in ensuring that taxpayer subsidies are used to the best effect. The Commonwealth has power to make laws about insurance – *section 51 (xiv)* of the Constitution: Wheelwright (1995).
78. This would replace the second-tier default benefit.
79. Based on a reduction in average length of stay leading to a similar reduction in costs, with private hospital costs making up about half of total benefit payments. The reduction in private hospital premiums may be larger that 5 per cent. We assume here that private health insurers will pass on cost savings into premium reductions. As we will show in our next report, premium growth over the past decade has principally been driven by growth in benefits; that is, gross margins (management expenses plus surpluses) have been constant.
80. Unfortunately, what is marketed as better amenity or care may simply be inefficiency. Private health insurers have an incentive to direct their members away from inefficient hospitals and should do so.
81. We expect robust negotiations between the larger insurers and the larger hospital chains to constrain these additional charges.
82. Given the lack of comparative information available currently, patients cannot make an informed choice on other aspects of private hospital care.
83. Private health insurers should also develop their own coding audit processes to mitigate gaming of coding: Steinbusch et al (2007).
84. Such as the hospital-acquired complications measure used for public hospital funding. In the first instance, insurers should adopt metrics already in place and agreed as part of public hospital quality incentives.

replacements in Australia is about 4-to-5 days. But hospitals in Europe and the US have been performing hip replacements on a same-day basis for a decade, with comparable outcomes.[85] Fewer than 350 of the 30,000 elective hip replacements done in Australia in 2016-17 were same-day patients discharged home.

Same-day joint replacements require good selection of patients, good 'prehabilitation' and home assessment, and good rehabilitation after surgery. These preconditions are not present currently, but will probably never emerge unless the regulatory barriers to paying for these new models of care are eliminated, and the financial incentives to establish new models are created. Most people don't see a hospital stay as an enjoyable experience – no matter how good the amenity of the hospital – so policies to reduce stays have both an immediate patient benefit as well as a longer-term benefit in lower system costs and reduced premiums.

DRG-based payment can facilitate sharing of the benefits of new technology. In Australia, payment weights for DRGs are updated annually for the public sector, in response to changed practice and technological innovation.[86] A similar process should apply for private hospitals. Early adopters of new cost-saving technology would accrue the benefits of their innovation. But as changed practice became more widespread, private health insurers would start to see a benefit as well.

'Hospital-in-the-home' and programs to provide care to patients not classed as 'admitted' are burgeoning in the public sector, but equivalent developments for private hospitals are stymied by government red tape and the need for private hospitals to negotiate separate program approvals with each private health insurer each contract period. This makes it almost impossible for private hospitals to develop sustainable business cases for their programs. Patients suffer reduced convenience and prolonged hospital stays as a result.[87]

Red tape about private hospital programs delivered in patients' homes – called 'hospital substitute programs' in the private health insurance regulations – needs to be untangled to make it easier for private hospitals, doctors and other organisations to run these programs and for insurers to pay for them.

85. Krieger and Elias (2018); Berger et al (2016); Hoffmann et al (2018); Toy et al (2018); Berend et al (2018); and Crawford et al (2015).
86. Australia's process is similar to best practice internationally: Quentin et al (2011), Scheller-Kreinsen et al (2011) and Sorenson et al (2015).
87. We discuss this in more depth in Appendix D.

Box 1: Improving private hospital quality

Although the evidence base is still weak,[a] payers around the world are developing 'pay for performance' (P4P) schemes, defined as a 'set of performance indicators linked to an incentive scheme'.[b] The potential set of performance indicators is almost limitless, as is the design of the incentive.

P4P recognises that contemporary private sector payment methods reward treating more patients and have an implicit assumption of equal quality. This quality assumption is under challenge, with P4P designed to reduce perceived variation in quality of treatment.

The better-designed P4P arrangements identify specific areas where a hospital needs to improve[c] and can involve sharing financial gains from negotiated improvements.

a. Eijkenaar et al (2013); Vlaanderen et al (2019); Eckhardt et al (2019); and Jan (2019).
b. Pope (2011).
c. Duckett et al (2018b).

Rather than each insurer deciding whether they should fund good programs, we suggest that the independent body which assesses and approves the public-sector equivalent of home-based care – the Independent Hospital Pricing Authority – does the same for the private sector.[88]

One area where there should be more home-based care is rehabilitation support. Private hospital inpatient rehabilitation care is growing more rapidly than public rehabilitation services.[89] Yet there is no evidence that inpatient rehabilitation is better than outpatient or home-based care. Again we propose that the Independent Hospital Pricing Authority be able to approve home-based rehabilitation, and that health insurance funds should not be forced to pay for expensive inpatient rehabilitation which provides no demonstrable benefit over home-based or outpatient rehabilitation programs.

4.3 What should be in the DRG bundle?

DRG-based payment pays for the treated patient, rather than days of stay or other measures. Under DRG-based payment, the hospital has an incentive to keep length of stay as short as clinically appropriate, because the hospital no longer gets paid more for longer stays or using more services. Essentially this shifts the costs of inefficiency from the insurer to the hospital.

At present, each private health insurer has its own idiosyncratic approach to payment. These may include separate payments for use of the operating theatre, the prostheses that are used, and how long the patient stays in hospital. In some cases, the patient gets separate bills for each of these components too. This muddle is partly the

Box 2: What would a single bill mean for patients?

At present patients who are treated in private hospitals get multiple bills: from the hospital (with multiple components including any prosthesis used); pathology and radiology companies; the surgeon; the anaesthetist; and the assistant surgeon.

A single bill would reduce patients' out-of-pocket costs, because hospitals would negotiate deals with doctors who use the hospital.

A single bill would eliminate unpleasant surprise bills, because the patient would be told what their out-of-pocket costs will be when they book their admission.

A major source of patient dissatisfaction is surprise bills leading to a huge gap between what patients expected to get back from their insurer and what they did get back. A single bill, with any out-of-pockets advised to patients in advance, would help to reduce both the size of the gap and give patients better information in advance of what they might have to pay out-of-pocket.

88. Hospital substitute programs sponsored by doctors or other organisations should have appropriate clinical governance arrangements in place, in line with the National Safety and Quality Health Service Standards.
89. We explore this issue further in Appendix G.

result of government red tape which specifies minimum payments for prostheses and requires separate itemisation for medical billing.

There would be greater incentives for efficiency – and greater opportunities for savings by hospitals and insurers – if the DRG payment bundle included everything that occurs during the patient stay.[90]

We propose that the DRG payment bundle should eventually include all stay-related costs, including prostheses, all medical and allied health costs, and all prescriptions.[91] Hospitals should generate a single bill for the hospital stay, covering all these components.[92] Doctors would send their bills to the hospital, not the patient.[93]

For insured patients, the hospital's consolidated bill should be sent to the insurer, who would pay the hospital and advise the patient of any remaining gap due to the patient's agreed excess or the hospital's higher amenity/care charge.[94] For uninsured patients, the bill would be given to the patient.

90. Contemporary payment methods often also bundle services provided before or after the stay: Hellsten et al (2016), Sutherland et al (2012) and Joynt Maddox et al (2019).
91. In addition to MBS payments, estimated costs to the Pharmaceutical Benefits Scheme for prescriptions in private hospitals would need to be transferred to insurers on a cost-neutral basis.
92. Private insurers should receive all information in the National Minimum Data Set from all their patients as part of this single bill, to enable them to monitor the quality of care provided and to ensure an audit trail for payments. The private sector hospital casemix protocol should include a specialist identifier to facilitate audit of a specialist's practice.
93. A hospital-generated single bill should be introduced regardless of adoption of the other proposals.
94. In this way it would be clear how much of any gap was due to the patient's excess and how much was due to hospital charges. This distinction is obscured in the current arrangement where the hospital collects the excess.

4.3.1 Medical fees

Current issues

As discussed in Chapter 1, surprise bills from doctors are a major source of patients' dissatisfaction with private care and private insurance. At present, doctors charge what they like, and patients rarely have any information about what they are getting for their money.

Patients have little power to bargain with their doctors about fees. Despite an emerging over-supply in some specialties, the patient's hand is still weak.

Patients have almost no information about the relative quality of doctors.[95] Anecdotal evidence suggests they may erroneously believe that higher prices signal higher quality. Referring general practitioners also have little information about relative quality of specialists, because their experience of outcomes from a particular specialist is very small compared to the specialist's overall case load. Patients may trust their GP to refer them to 'the best', be reluctant to challenge their referral even in the face of high prices, and generally defer to the specialist to set the terms of the transaction.[96]

The Medicare Benefits Schedule is no longer a good guide to what specialists charge – bulk-billing rates for specialists are low, and three quarters of all medical services provided in hospitals are charged above the schedule fee.[97] Private health insurers typically agree to pay rates higher than the MBS fee, but even so, patients are still left with significant out-of-pocket costs.

95. And, as we pointed out earlier, neither do doctors.
96. Arrow (1963); and Emons (1997).
97. See Table 2.2. Although only one quarter of in-hospital medical services are billed at the MBS fee or below, it remains a useful benchmark and insurers should continue to set their prices as a percentage of the MBS fee, to facilitate comparability.

Medical fees are currently partly reimbursed by Medicare (75 per cent of the schedule fee), partly reimbursed by the insurer (25 per cent of the schedule fee), partly paid under agreements between doctors and insurers, and the remainder is paid by the patient as an out-of-pocket charge. This results in an incoherent shambles of payments.

Patients are in the worst position to navigate the various payment flows and negotiate fees with their specialist. Quaint pamphlets which encourage patients to ask their surgeons about fees shift responsibility from those who can effect change – doctors, private hospitals, insurers, and government – to those who can't – the patients.

Who should negotiate medical fees?

We propose that the primary fee negotiation be between doctors and private hospitals.[98] The advent of corporate specialist groups (see Box 3) makes it easier for private hospitals, especially private hospital chains, to negotiate medical fee arrangements. Patients would still choose their specialist, and still be treated in the hospital where their specialist practices. The difference in our proposal is in the payment flow – private hospitals would issue a single bill to the patient's insurer and the private hospital would pay the specialist, the anaesthetist, the assistant, and any other medical practitioners on the patient's behalf.[99]

Box 3: From cottage industry to conglomerates

Fifty years ago, when what is now Medicare was being designed, specialist medical services were primarily provided by independent, solo, male, specialists.

Pathology and radiology were the first services to consolidate into companies, then into even larger groups, including as part of companies listed on the Australian Stock Exchange.

More recently, consolidation has expanded to physicians, surgeons, and radiation oncologists, with conglomerates such as GenesisCare and Icon Group involving hundreds of specialists.

Bundling medical fees into a single bill would require doctors to negotiate with private hospitals about what the doctor charges. Hospitals are in a better position than patients to negotiate with doctors about fees.[100] Private hospitals already negotiate about whether to appoint a specialist to the hospital; we are proposing that those negotiations should include consideration of what the doctor will charge patients.

In the past, private hospitals were 'specialists' workshops',[101] but the increasing doctor oversupply in some specialties is strengthening the ability of private hospitals to negotiate lower medical gap arrangements with specialists.

We could have proposed that the single bill be issued by the admitting specialist on behalf of the other doctors and the hospital. One strength

98. The private health insurance industry is regularly scrutinised by the Australian Competition and Consumer Commission: see Australian Competition and Consumer Commission (2018). Negotiations between doctors and hospitals may need to be authorised by the Commission or Medicare in case they are perceived as anti-competitive.
99. This proposal reduces Commonwealth involvement in regulating medical fees – because fees would be the outcome of negotiations between private hospitals and specialists. The Constitutional prohibition on 'civil conscription' of doctors in *section 51 (xxiia)* only applies to the Commonwealth Government, so this proposal should not be subject to constitutional challenge. See Faunce (2008) and Faunce (2009).
100. Although private hospitals depend on doctors to keep their beds occupied, in the context of an emerging oversupply of specialists, the power balance between doctors and private hospitals is shifting back towards private hospitals.
101. Pauly (1980).

of this is that the specialist makes the key resource decisions – what tests, how long the patient stays in hospital, what prostheses – and could be held to account for those decisions. But under specialist billing who would hold the specialist to account and how? The patient will remain in a weak position and could not negotiate better prices. There are no effective clinical governance arrangements outside hospitals, and specialist billing would weaken the hand of the private hospital. Private health insurers are not well placed to hold thousands of individual specialists to account.

Another option would be for all the billing to be managed by the insurer. A weakness of this option is the structure of the insurance industry, with its long tail of small insurers, which inhibits efficient oversight of the practice of thousands of individual specialists.

Commonwealth funding

In 2018-19, Medicare paid out $3.14 billion for in-hospital services for private patients, almost all of which was for insured patients (94 per cent).[102] This funding should be converted on a cost-neutral basis from a payment direct to patients (which the MBS payment technically is) to a payment to patients paid through insurers.

This stage would require a cost-neutral transfer of funding from the PBS and MBS to the private health insurance rebate.[103] We are not proposing changes to the current PHI rebate means-testing arrangements.

A variant of this option is that the Commonwealth could pay a DRG payment to private hospitals to cover average medical and pharmaceutical costs for non-insured people. This is not our preferred option because it adds additional complexity, and the proportion of MBS in-hospital funding for people without insurance is relatively small.[104]

How would a bundled bill work for medical fees?

Under DRG bundled payment arrangements, each private hospital would be paid by the insurer at the average across all private hospitals.[105]

The payment to private hospitals would include a medical amount based on the average medical payments for similar patients. Because the medical amount would be based on the average, prevailing medical fees would be incorporated in the hospital price.[106]

Private hospitals might be willing to pay some doctors more, cross-subsidising from efficiencies elsewhere. This would recognise

102. The Australian Prudential Regulatory Authority reports $2.933 million spent on Medicare Benefits payments by insurers in 2017-18. The Department of Health reports MBS expenditure. There may be minor differences in reporting between the two sources because of processing lags.
103. This would be done by increasing the private health insurance rebate by about 50 per cent (the rebate is currently about $6 billion a year, and MBS expenditure in private hospitals is about $3 billion a year). We consider the future of the private health insurance rebate in more detail in our imminent report on private health insurance.
104. We acknowledge that our proposal would also adversely impact moderate- to high-income people who are eligible for in-hospital MBS rebates but are not eligible for a private health insurance rebate.
105. In this report we are proposing in-hospital bundling. In the longer term, it may be appropriate to extend bundling to cover the full patient episode necessary after care, including rehabilitation, and potentially pre-admission work-up.
106. This is redolent of the 'most common fee' arrangements which were used as the initial basis for the MBS in-hospital fees. Over time, though, as excessively high billing is not funded, incomes of different medical specialties may become equalised.

doctors who provided better-quality care, such as lower complication rates.[107] The hospitals would absorb the costs and benefits.

If a private hospital tries to pass the higher specialists' costs on to patients in higher hospital prices, then it will probably face pressure from health insurers encouraging patients elsewhere.[108] And patients will be able to compare hospitals (and the associated specialists) on the basis of a single 'all-in' price.

Similarly, private hospitals may wish to cross-subsidise new technologies, such as robots used for prostatectomies, to retain surgeons wishing to use the new technology. Patients should not be required to pay additional out-of-pocket costs to subsidise these technologies when the benefits for the patients are not clear.[109]

Private insurers should ensure that their contracts with private hospitals preclude medical out-of-pocket costs for patients other than as part of the patient's agreed upfront excess arrangements with the insurer or the amenity/care premium charged by the private hospital.

Under our proposed arrangements, which would require legislative change, when patients lodge their admission forms to their private hospital – often well in advance of the proposed admission date for elective procedures – the hospital would have to advise the patient of the total expected out-of-pocket cost given the patient's insurance status (Box 4).

Box 4: How a single bill would work for private hospitals and private health insurers

- The minimum payment by a private health insurer to any participating private hospital for necessary care[a] would be at the Private Hospital National Efficient Price. Insurers would not be required to make any payment to non-participating hospitals. The Commonwealth Department of Health would maintain the register of participating hospitals.
- The payment would cover all costs, including medical costs, with the maximum out-of-pocket costs to be paid by the patient set at the patient's agreed upfront excess, together with any hospital premium.
- Participating private hospitals would have to agree to issue a single bill including all medical costs, and the maximum out-of-pockets costs for any patient would be the patient's insurance excess, and the hospital's amenity/care charge. The hospital's amenity/care charge would have to be disclosed to the patient on booking.
- Private health insurers could pay above the National Efficient Price to hospitals participating in preferred-provider arrangements, but would not be allowed to pass on these costs to patients as out-of-pocket costs.

a. Necessary care is discussed in the next chapter.

107. Complications increase hospital costs and, under an DRG payment model, generally without increasing revenue: Duckett et al (2018). It is in a private hospital's interest to attract specialists with lower complication rates.
108. Tripartite agreements – between doctors, hospitals, and insurers – should be encouraged to minimise hospital out-of-pocket costs, potentially with private hospitals initiating those negotiations.
109. Australia already has a robust approach to evaluating new medical technologies: Haese et al (2019).

Creating a functional medical market

Private hospital care does not currently meet the conditions for a properly functioning market. Patients seeking care are in an extremely vulnerable position. They have poor information, little power, and are exposed to surprise bills that they never signed up for. They cannot be expected to negotiate effectively with a person of higher status whom they have to trust to provide good care.

This must change. We propose thinking about private hospital care and specialist treatment as a single service – not an array of superficially disparate activities which generate multiple bills. There should be a single bill, and the private hospital, not the patient, should take the risk for any excesses that the specialists want to charge.

Under our proposal there would still be price competition – but it would be the hospital that tells the patient what the additional payment would be to cover purported better amenity or care. Private hospitals could also discount, passing on the benefit as a reduction in the patient's health insurance excess.

What we are proposing is a dramatic shake-up of billing arrangements. We aim to change the power and information imbalance that has allowed egregious billing at more than twice the schedule fee by a handful of greedy doctors. Our changes would force doctors to negotiate with private hospitals. These negotiations should start to rein in excessive billing and eliminate the surprise bills patients now get. Hospitals and insurers would be acting as the patient's agent in fee negotiations, with both having an interest in keeping fees down.

We expect some doctors – especially the egregious/greedy billers – would oppose this reform, because it would bring accountability into the medical market. Patients would benefit directly – through reduced medical out-of-pocket costs – and indirectly, because private hospitals would become more efficient, which would help drive down private health insurance premiums. Patients would still have choice of doctor, but would face fewer and lower out-of-pocket costs for these choices. Importantly, the doctor-patient relationship would continue; the change would be to the doctor-payment relationship.

4.3.2 Prostheses

Prostheses accounted for more than 10 per cent of the real growth in benefit outlays by private health insurance in the past decade (Figure 1.1). Australian prosthesis prices are high by international standards,[110] and concern with prosthesis pricing led to a recent Senate inquiry.[111]

Although approaches to prosthesis pricing are improving, they still fall well short of economic rationality.

Prosthesis prices are set without the market discipline of an open tender, unlike the situation for other types of procurement. State healthcare purchasing authorities and the New Zealand purchaser drive price reductions using tenders for prostheses. Australia should follow suit and tender for prostheses, in addition to the proposal for payment bundling outlined in this report.

Bigger changes to prosthesis arrangements are also required. Australia's current wasteful approach is based on 1950s-style central planning: the Commonwealth Minister of Health, on the advice of an insider-laden bureaucratic committee,[112] sets the prices for 10,000 separate prosthesis items. This approach needs to be swept aside and replaced by a 21st-century solution.

110. Private Healthcare Australia (2015); although international price comparisons are still methodologically difficult: Koechlin et al (2017).
111. Senate Community Affairs References Committee (2017).
112. See the current committee membership at https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-about-PLAC.

Prosthesis pricing should be deregulated, and the cost of the prosthesis bundled into and paid as part of the DRG payment.[113] This arrangement would give private hospitals incentives to identify well-priced prostheses, and to resist pressure from specialists to use higher-priced prostheses without strong clinical justification. Such initiatives have already led to much lower priced prostheses in public hospitals.

4.4 Improved information for patients

Our proposed changes could not be implemented overnight. In the meantime, private health insurers should establish hotlines or websites so their members can check their likely out-of-pocket costs for the hospital they are to be admitted to, given their level of coverage. Providing better information to allow their members to access better care should be part of the value proposition of private health insurers.

Consumers should have access to clear information, well in advance of making a booking for admission, about their insurer's arrangements with relevant private hospitals, including any out-of-pocket costs the consumer might face.

Ideally, comparative pricing information would be accompanied by information about outcomes or risks. For example, the websites should include information about how many of these procedures the surgeon has done in the past year and, where possible, information about readmission rates and rates of referral to intensive care units.[114]

In the longer term, private health insurers should provide their members with improved information on the hospital. This should include information about the quality of care, DRG-specific volume, and any additional uncovered charges the hospital levies. Over time, hospitals would be forced to compete based on the quality of care they provide,[115] and GPs would have better information on which to base their referral decisions. This would put some meaning into the rhetoric about 'choice of doctor' which is so prevalent in discussions about the value proposition of private health care.[116]

Even the largest private insurer covers only 14 per cent of the Australian population.[117] In these circumstances, if an insurer uses only its own information for reporting volume and quality of care, it risks confusing statistical 'noise' with true underlying differences between doctors or hospitals. Government should facilitate valid comparisons of hospital and specialist performance, either by extending to private hospitals the existing benchmarking portal run for public hospitals by the Independent Hospital Pricing Authority, or by authorising insurers and private hospitals to establish a common data clearinghouse which provides benchmarking information for public and private reporting.[118]

The increased information available to patients, coupled with the reductions in regulations which hinder efficiency, should give more leeway to private health insurers to drive down prices and force hospitals to justify any extra levies they propose.

For patients, our proposals would end surprise bills. Because patients would have certainty about the fees they would face if they used their private health insurance – and because the excess they signed for becomes more like an excess in other insurance markets – it would be appropriate to increase the maximum excess amount permitted

113. We discuss this issue further in Appendix E.
114. Information about quality of care would, of course, need to take account of the complexity of the patients.
115. Porter and Teisberg (2006).
116. Duckett and Nemet (2019); and Ward et al (2015).
117. In 2017-18, Medibank held 27 per cent of the market (based on total policy coverage, including general treatment only). BUPA held 26 per cent of the market.
118. Such as the Dutch Institute for Clinical Auditing (see http://dica.nl/).

in health insurance policies. Increasing the maximum excess would enable insurers to offer cheaper policies.

4.5 The transition path

Our proposals represent a significant change to the way bills are showered on patients, and the out-of-pocket costs patients pay. We suggest these new arrangements be phased in over three years and in three stages (Figure 4.1).

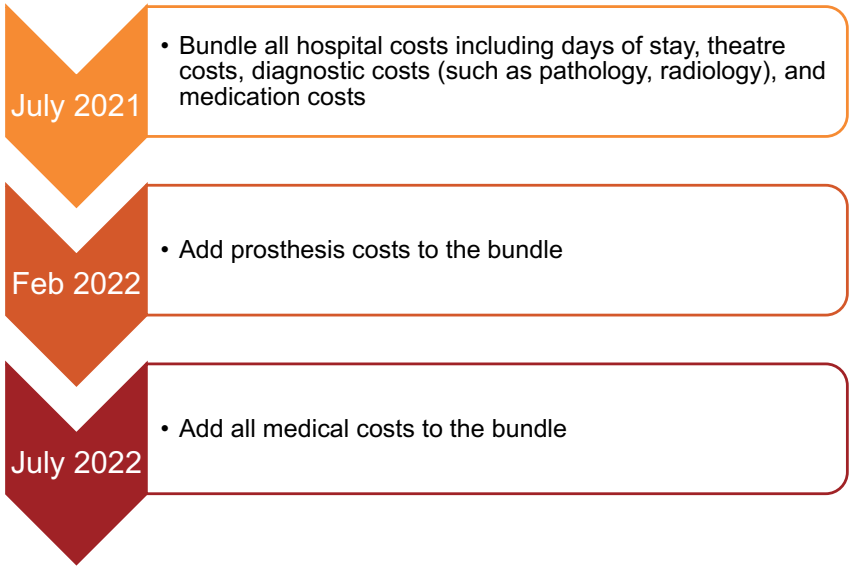
The DRG bundle would be Stage 1 and should start on 1 July 2021. The bundled bill should include all hospital costs, prescriptions, and diagnostic services including pathology and radiology.

Private hospitals usually choose the pathology and radiology companies that provide services to the hospital. So the hospital is best placed to negotiate deals with its providers about the prices for various tests. Similarly, private hospitals usually choose the pharmacy provider, and so these costs could easily be incorporated into the hospital bill, as is very often the case already.[119] Private hospitals should also be given responsibility to start to reduce length of stay, and over-use of pathology and radiology services.

Expanding the DRG bundle to include prostheses would be Stage 2. This should start on 1 February 2022, at the end of the current agreement with the Medical Technology Association of Australia. Significant savings could be made by reforming prosthesis pricing, as discussed in Appendix E, and it is unfortunate that prosthesis bundling cannot occur earlier. As part of Stage 2, private hospitals should develop consolidated billing where the hospital issues bills on behalf of the doctors.

In Stage 3, starting on 1 July 2022, the DRG bundle should incorporate all medical care. Deferring incorporating medical costs into the bundled payment has a downside for consumers – patients are exposed for longer to the current lack of effective control of those bills. However, private hospitals currently do not have structures in place to hold doctors to account for length of stay and other resource utilisation decisions. Private hospitals will need time to develop these structures.

Figure 4.1: Three steps to one bundled bill



119. As in public hospitals, there would be no PBS payment for in-hospital prescriptions except in special circumstances, and therefore no mandated patient co-payment. Private hospitals would need to negotiate prices and remuneration with their pharmacy provider.

5 Reducing low-value care in private hospitals

Chapter 3 showed the potential for private hospitals to improve their efficiency by reducing patients' average length of stay. This chapter looks at efficiency more broadly – whether the admission should have occurred at all,[120] and whether care is being provided in the right hospitals.

We propose that private health insurers be empowered to use their members' funds more wisely – insurers should not be forced to pay for low-value or unnecessary care.[121] And where the evidence is clear and independently verified, insurers should be able to pay for better alternatives to inpatient care.

5.1 Rates of care and interventions in the insured population

Chapter 3 showed that the length of stay for a normal vaginal delivery is longer in a private hospital. Maternity care in private hospitals is different from public hospitals in another way too – mothers in private hospitals are more likely to have obstetric interventions, particularly caesarian sections, compared to similar mothers in public hospitals.[122]

This difference may be due to patient preferences, often derided as 'too posh to push',[123] but the stronger evidence is that patient preferences are for less intervention in delivery.[124] This suggests that the elevated rates of birth interventions are due to private hospital and private obstetricians' practices,[125] and that having private health insurance is a risk factor for more interventionist, more risky, and more expensive delivery.[126]

As private hospitals focus on elective procedures,[127] one would expect the proportion of patients admitted to private hospitals in a Diagnosis Related Group (DRG) to vary according to whether the treatment is more elective or more acute.[128]

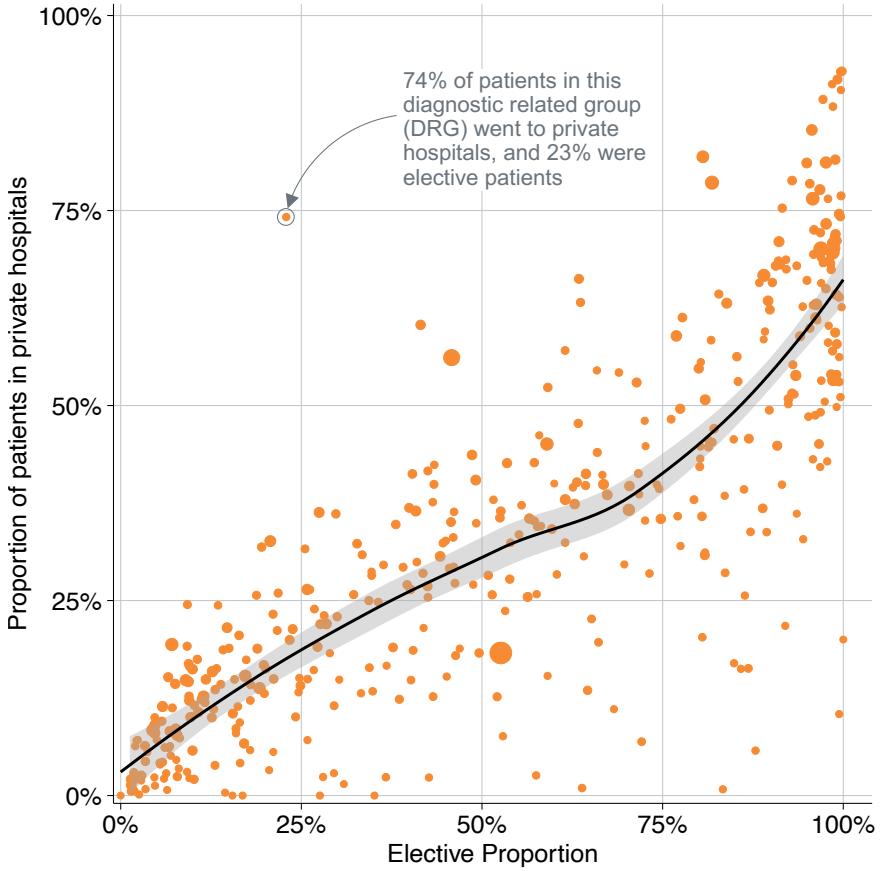
Figure 5.1 on the following page shows just such a relationship. DRGs which are primarily emergency have low private hospital admission proportions, whereas DRGs which are primarily elective have higher private hospital admissions.[129]

Slightly less than 45 per cent of the population has some type of private hospital insurance,[130] so, all other things being equal, one would expect

120. Economists refer to the former as technical efficiency, and the latter as allocative or social efficiency.
121. The risk of over intervention or over treatment is seen across a range of procedures. See Moynihan et al (2018) and Dahlen et al (2014).
122. The caesarean section rate in 2017 was 40 per cent in private hospitals compared to 27 per cent in public hospitals: Australian Institute of Health and Welfare (2019b). See also Dahlen et al (2012) and Dahlen et al (2014).
123. Weaver and Magill-Cuerden (2013).
124. Cole et al (2019); and Miller et al (2012).
125. Nippita et al (2015).
126. Hoxha et al (2017).
127. Duckett and Nemet (2019, table 3.1).
128. Our analysis examines admissions to private hospitals, not admissions by people with private insurance to public hospitals. It therefore underestimates the rate of private admissions.
129. More than 70 per cent of procedures in a number of high-volume adjacent DRGs such as colonoscopy (G48), lens procedures (C16), and endoscopy (Z40) are performed in private hospitals. The pattern for patients who live in regional or remote areas is slightly different, with lower proportions being admitted to private hospitals (see Figure C.1 on page 53). This is especially the case for remote patients, which is not surprising given that they have less access to private hospitals.
130. Since 1 April 2019, all hospital insurance products have been classified as Gold, Silver, Bronze, or Basic. The effective rate of insurance may be even lower than 45 per cent because upfront excesses included in policies may reduce the likelihood of people opting to use private care. In the June quarter of 2019, about 38 per cent of the insured population had policies with an excess.

Figure 5.1: Elective patients are more likely to be treated in private hospitals

Proportion of admissions treated in private hospitals, by adjacent DRG (sizes proportional to total number of admissions), 2016-17

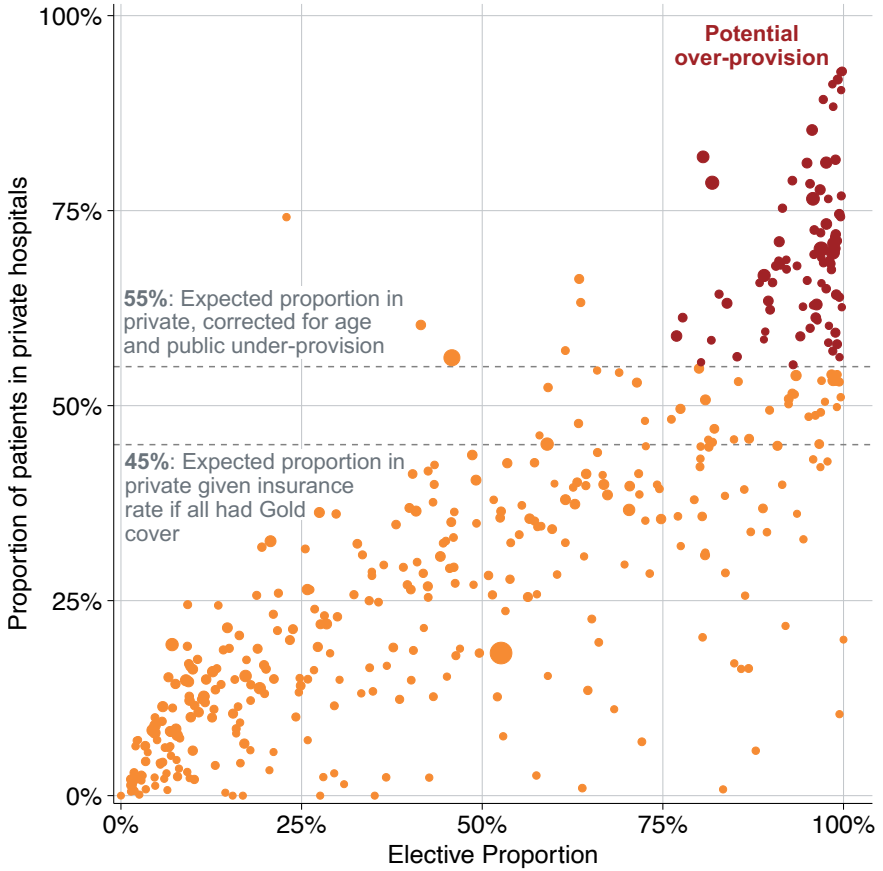


Note: Smoothed line is produced by localised regression. 'Adjacent DRG' refers to groupings of closely related DRGs.

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

Figure 5.2: About $2 billion could be saved each year by recouping over-provision

Proportion of admissions treated in private hospitals, by adjacent DRG (sizes proportional to total number of admissions), 2016-17



Notes: 'Adjacent DRG' refers to groupings of closely related DRGs.

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

the insured population to account for slightly less than 45 per cent of any elective hospital procedure. But some privately insured patients aren't covered for a range of treatments. Only about 18 per cent of the population is covered for *all* diagnoses and treatments ('no exclusions', now called Gold cover).[131] So one would expect the proportion of the population treated in private hospitals would range between 18 per cent and 45 per cent. But private hospitals treat far more of the population than one would expect for some – mainly elective – procedures.

Prima facie, one would expect the proportion of treatments for any DRG to be no more than the proportion of the population with private health insurance. As shown in Figure 5.2 on the preceding page, there are about 80 DRGs where more than 55 per cent of the treatments are performed in private hospitals.

Higher admission rates to private hospitals for the insured population compared to the uninsured population might be because:

- people who are older or who anticipate needing surgery might be more likely to take out private health insurance, an example of what economists call adverse selection;
- there is over-provision of private care, either because people prefer surgery to medical treatment,[132] or because of supplier-induced demand, where specialists recommend people for care of low or no value to the patient;[133] or
- there is under-provision of public care.

131. As of 30 June 2019: Australian Prudential Regulation Authority (2019b).
132. Part of the value-proposition of private health insurance is 'peace of mind'. This may translate into over-investigation (e.g. more knee arthroscopies), with patients seeing this as what they paid their premiums for, and that it is reasonable for the additional costs to be borne by the rest of the insured population.
133. The issue of low-value care is discussed in Appendix F.

There is evidence of all three of these phenomena.

One would expect about 7.4 per cent more admissions to private hospitals because the privately insured population is older than the Australian population as a whole. The implication of this is that an appropriate age-adjusted share should be 3-to-4 percentage points greater than the 45 per cent of the population with any type of health insurance.

There is a higher incidence of low-value or unnecessary care in private hospitals:

- Higher rates of low-value care have been found in private hospitals in several specific conditions such as carotid endarterectomy, hysterectomy, knee arthroscopy, and percutaneous coronary interventions.[134]
- Rehabilitation admissions to private hospitals have more than doubled over the past decade, compared to a growth rate of 18 per cent in public hospital admissions.[135]
- Legislative provisions to encourage private out-of-hospital care, through support for 'Hospital Substitute Programs', have not been taken up widely. As a result, people are treated as private hospital inpatients, at greater cost than if they had been provided with out-of-hospital care.

This is some evidence of public sector under-provision. Patients wait longer for elective procedures in public hospitals than private hospitals. In itself this does not necessarily show that there is under-provision in the public sector. If waiting times were stable, and within a clinically acceptable time, then the waiting list would simply be a way of managing flows of patients. However, waiting times have been

134. See Chalmers et al (2019) and Badgery-Parker et al (2019).
135. See Appendix D.

increasing in most states, and 10 per cent of patients now wait more than eight months for their procedure.[136]

5.1.1 Costs of over-provision

If all patients had Gold policies covering them for all treatments, one would expect only 45 per cent of admissions in each DRG to be to private hospitals. Adjusting for the age profile of private health policy holders, one would expect about 48-to-49 per cent in private hospitals. The expected rate would be higher again given some under-provision in the public sector, say 55 per cent.[137]

Figure 5.2 shows that there are many DRGs where far more than 55 per cent of patients are admitted to private hospitals.

In Table 5.1 we use a base rate of 55 per cent of admissions being in private hospitals, and then estimate the cost of unnecessary admissions for a range of scenarios. Specifically we model, for the admissions above that 55 per cent rate, the cost impact of different assumptions about the appropriateness of those admissions.

If 95 per cent of all private hospital admissions are appropriate, even in DRGs where 90 per cent of admissions are to private hospitals, then only about 116,248 admissions are inappropriate, at an estimated cost of less than $500 million each year. But if about half of all admissions to private hospitals are inappropriate, then the cost of unnecessary admissions is well above $2 billion each year.

The true situation will lie between these extremes. If we assume 80 per cent of all private hospital admissions are appropriate, then excess costs were almost $1.7 billion in 2016-17 – about 11 per cent of all private hospital spending in that year.[138]

Table 5.1: Estimated cost of excessive admissions to private hospitals, among DRGs where at least 75 per cent of admissions were elective, 2016-17

Proportion of private admissions that were justified (%)	Number of unnecessary admissions	Excess cost ($m)
95	116,248	$485
90	227,855	$923
80	427,962	$1,662
70	553,020	$2,089
60	577,921	$2,217
50	578,819	$2,222

Source: Grattan analysis of dataset obtained from AIHW. See Appendix B.

136. Australian Institute of Health and Welfare (2019c).
137. This is the equivalent to assuming that public hospitals are meeting about 90 per cent of the elective procedure need. In 2017-18, about 1.8 per cent of people on the waiting list had been waiting more than 365 days (the maximum waiting target for non-urgent patients) and the total waiting list grew 0.3 per cent: Australian Institute of Health and Welfare (ibid).
138. Australian Institute of Health and Welfare (2018).

5.2 Reducing low-value care

The quest to measure and reduce low-value care has been around for decades,[139] but there has been more talk than results. This is partly because although *patterns* of low-value care can now be measured easily, it is still difficult to say with certainty that care of a *specific patient* is low-value or unnecessary. Professional incomes are also at stake – doctors get paid for treatments whether they are low-value or not, and in the face of uncertainty many feel justified in recommending a procedure.

There are three approaches to reducing low-value care. The first is to develop guidelines about what constitutes low-value care, and to discourage such care, generally through moral suasion. The 'Choosing Wisely' movement follows this approach.[140]

A second approach is an enhancement of the first – to adopt the guidelines but also invest in monitoring adherence to them.

The third approach is to use the power of the purse: where the evidence is clear, refuse to play for low-value care. This is the aspiration of the Federal Government's MBS review. But this stakeholder-intensive exercise has so far yielded little, despite dozens of committee meetings and millions of dollars spent on consultants.

The failure of this 'disinvestment' approach is partly due to the difficultly of determining that a specific intervention is never of value, and partly due to stakeholder power – doctors are unlikely to embrace reforms that could reduce their incomes.

To break the impasse, we propose that insurers be empowered to take action against low-value care.[141] The Australian Commission on Safety and Quality in Health Care should be required to identify potential examples of low-value care and develop benchmarks where practice might be seen as aberrant.[142]

Insurers and consumer groups should be able to nominate for the Commission's consideration potential low-value treatments or procedures.[143] The Commission should publish findings on its website, and insurers should be able to take those findings into account when entering into contracts with private care providers.

Insurers could then monitor hospitals and identify those with aberrant practice.[144] If an identified hospital refuses to lift its game, the insurer should be able to withhold funding for the relevant procedure or treatments.[145]

139. Restuccia et al (1987); and Brook and Lohr (1986).
140. Levinson et al (2018). A further risk of relying too heavily on guidelines is the potential for gaming, specifically recording indicators as present when they may not be.
141. See Appendix F.
142. The identification of benchmarks should be informed by data of current prevalence, so might best be done in conjunction with the Australian Institute of Health and Welfare. Given limits on human and organisational capacity to process information (Simon (1947)), care should be taken to avoid a proliferation of benchmarks with different definitions.
143. As part of our consultations on this report we were made aware of many examples of aberrant practices – both between the public and private sectors and within the private sector. Excess referrals to inpatient rehabilitation is an obvious candidate for the early referral. Similarly, differential rates of admission to coronary care and intensive care units may be worth examining, and establishing clear criteria for admission to those units. Differential day case rates were also raised with us, but this may be better dealt with my our proposal for activity-based funding.
144. Our approach is more educational – at least in the first instance – than US pre-authorisation approaches. Multi-component strategies to reduce low-value care are more likely to be successful: Colla et al (2017).
145. This is a variant of the approach we recommended in our previous report on this topic: Duckett et al (2015).

We propose that the Australian Commission on Safety and Quality in Health Care should also evaluate software programs that support patient decisions.[146] Private health insurers could then mandate use of the best programs to help patients make better-informed choices about the value of recommended treatments.

These measures could reasonably be expected to achieve savings of about $1 billion each year, about half the expected savings if 70 per cent of private hospital admissions are deemed appropriate.

In the longer term, insurers should support hospitals' and specialists' move toward more evidence-based practice. This could include paying higher daily payments above the Efficient Price, and encouraging patients to use hospitals and specialists with better documented adherence to evidence-based practises.

5.3 Addressing low-volume care

There is now extensive evidence that for many treatments, patient outcomes are better in hospitals which treat larger numbers of patients compared to hospitals which treat fewer patients.[147] Private health insurers should not have to pay for care in hospitals where there are likely to be significantly worse patient outcomes.

The same method we have proposed for addressing low-value care should apply to low-volume care. That is, private health insurers, consumer groups, or other interested parties should be able to apply to the Australian Commission on Safety and Quality in Health Care for a determination about the evidence of a 'volume-outcome' relationship.[148]

If there is a material difference in outcomes, insurers should not be required to pay for that service in low-volume hospitals.[149]

A consistent theme of this chapter is that private health insurers should take a stronger role in driving quality of care for their members. Specifically, they should use their agreements and contracts with private hospitals and specialists to encourage high-value care. Insurers should not be required to pay benefits to hospitals when they provide low-value or unnecessary care, or care in hospitals where patient outcomes are likely to be worse.

146. This could ensure scientific validity of the underlying algorithms: Syrowatka et al (2016), Dannenberg et al (2018) and Scalia et al (2019); and ensure they are not biased: Obermeyer et al (2019).
147. We discuss this in Appendix G.
148. The determination needs to be sufficiently clear that it can be determined in advance of a patient being admitted to hospital. Otherwise, insurers could retrospectively refuse payment to a hospital.
149. Over time, the same approach can be used to address the volume-outcome relationship for individual specialists.

6 The $2 billion opportunity

Private hospitals cost $16.3 billion in 2017-18. This report shows that up to 15 per cent of that spending is wasteful (made up of 10 per cent from patients staying in hospital longer than necessary, and 5 per cent from hospitals and doctors providing care that is of no or little value to the patient). Costs could and should be cut by up to 15 per cent, or about $2 billion a year.

This report identifies further savings in prostheses and medical out-of-pocket costs. Taken together, if our recommendations are implemented, over time consumers could get a reduction in their private health insurance premiums of 7-to-10 per cent, with additional savings to patients from reduced out-of-pocket costs.

Under our reform proposals, consumers would also benefit by receiving a single bill for their private hospital visit, and from constraint on excessive bills from a handful of greedy doctors. This could be expected to lead to a reduction in the rate consumers are dropping out of private health insurance.

Consumers would be winners. So too insurers (because their costs would be lower), private hospitals (because they would operate more efficiency), and the vast majority of doctors (who would have a more stable private system in which to practice).

The losers would be inefficient private hospitals, and greedy doctors and device manufacturers/importers. They will squeal the loudest. But the government should ignore their self-interested protests, put patients' interests first, and transform private hospital care.

Appendix A: Literature review

A.1 Summary of the literature

Study	Population	Methodology	Efficiency metric	Private more efficient?
Productivity Commission (2009)	122 private, 368 public acute, and 18 non-government hospitals (data from 2006-07)	Stochastic frontier analysis	Technical efficiency	No
Forbes, Harslett, Mastoris, and Risse (2010)	99 private, 343 public acute, and 17 non-government hospitals (data from 2003-04 to 2006-07)	Stochastic frontier analysis	Technical efficiency	Yes
Chua, Palangkaraya, and Yong (2009)	418,222 episodes of heart disease from 2000-01 to 2004-05	Two-stage risk-adjusted mortality rate	Risk-Adjusted Mortality Rate (RAMR)	Yes
Chua, Palangkaraya, and Yong (2011)	123 public hospitals and 133 private hospitals	Semi-parametric data en-velopment analysis	Technical efficiency	*NA*
Butler (1995)	35 private hospitals and 121 public hospitals (data from 1977-78)	Linear regression	Average cost per case	Yes

A.2 Overview

The literature comparing the efficiency of Australia's public and private hospital systems is limited. The most comprehensive analysis was by the Productivity Commission in 2009 and 2010. Its two reports came to conflicting findings, and its analysis had methodological problems.

The broader literature is sparse. The Melbourne Institute has published a few reports which circled the question of relative efficiency, but did not directly answer the question of which sector is more efficient. That question was directly addressed for Queensland in a book in 1995, but those findings are now outdated.

A.3 Productivity Commission report (2009)

The Productivity Commission's 2009 report, 'Public and Private Hospitals',[150] modelled the efficiency of 122 private, 368 public acute, and 18 non-government hospitals using stochastic frontier analysis (Box 5 on the next page). The model accounted for outputs, inputs, quality and patient safety, patient risk profile, and roles/functions.

The Commission found:

- The efficiencies of public and private hospitals were broadly similar (about 20 per cent below best practice).
- Large and very large private hospitals were slightly more technically efficient than public hospitals.
- Very small and small public hospitals were more technically efficient than private hospitals (this may be a function of the way they were modelled).

150. Productivity Commission (2009).

A.4 Productivity Commission supplement (2010)

The Commission published a supplement in 2010 which included data from 2003-04 to 2006-7.[151] This updated analysis found:

- Australian acute hospitals could improve their financial efficiency by about 10 per cent.
- For-profit and 'public contract' hospitals were more efficient on average, in terms of their potential to increase output for a given set of inputs.
- For-profit, not-for-profit, and public hospitals were similarly efficient in terms of their potential to economise on input use for a given level output.

These differences were apparent across all hospital sizes.

A.5 Methodological problems in the PC reports

Underestimated private capital stock

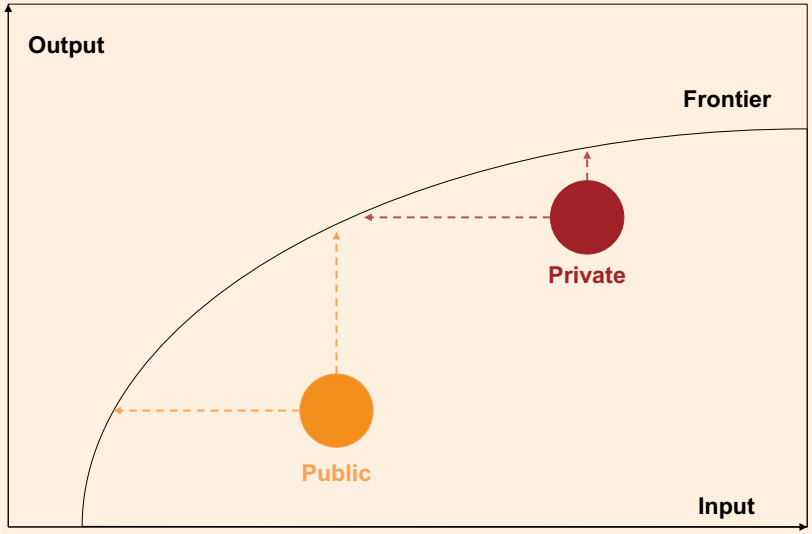
Footnote 5 in Forbes, Harslett, Mastoris, and Risse states:

> Public hospitals report the number of staffed beds [AIHW], while private hospitals report the number of total available beds [ABS]. It was inferred that the private hospital variable referred to total beds, which would therefore be higher than staffed beds. An estimation of the number of staffed beds in private hospitals was therefore used as a comparable measure to the public hospital variable, as outlined in PC. It was since learnt that the ABS definition of total available beds is equivalent to staffed beds. However, the extent to which this adjustment affects the comparative efficiency scores is unclear.[152]

Box 5: The two dimensions of technical efficiency

The PC's 2009 report distinguishes between the potential of hospitals to increase output for a given set of inputs, and the potential of hospitals to economise on input use for a given set of outputs. Technical efficiency compares the distance between a producer and some estimated maximum productivity function (which links an input and output variable). This distance can be measured in the x dimension (where both sectors are equally efficient) and the y dimension (where private is more efficient), which is why the PC has separated out these two measures.

Figure A.1: Visualising technical efficiency



Note: This visualisation is conceptual only.

151. Productivity Commission (2010).
152. Forbes et al (2010).

This error is problematic because the number of staffed beds is a variable that had a significant impact on the estimated efficiency.

This adjustment underestimates the amount of resources needed to deliver a certain level of care, which inflates the estimated efficiency of private hospitals. This would falsely imply that they have limited potential to increase output for a given set of inputs, because the amount of resources used to produce that output is under-reported.

Reliance on parametric models

The PC used stochastic frontier analysis (SFA), a modelling technique that relies on a set of restrictive economic and statistical assumptions. This approach is contrasted with a non-parametric approach, Data Envelopment Analysis (DEA), which does not impose the same set of restrictions. The PC listed three reasons for this choice:

1. The significance of the relationships cannot be tested in a DEA framework.
2. Non-parametric estimation is more sensitive to outliers.
3. Non-parametric estimation does not distinguish between technical inefficiency and hospital-specific random error.

While point 3 is valid, points 1 & 2 can be dealt with by using newer statistical techniques such as semi-parametric bootstrapping.[153]

There is nothing intrinsically wrong with SFA – the economic and statistical assumptions it makes may well be reasonable, or even desirable. But it would have been appropriate for the PC to use both SFA and a non-parametric approach to ensure their framework was valid.

153. See Simar and Wilson (2007).

Appendix B: Technical appendix

B.1 Data

Our data set was obtained from the Australian Institute of Health and Welfare and consists of data on every patient discharged from every hospital in Australia – public or private. The analysis in this report was performed using the data for the 2017-18 year (see Table B.1).

B.2 Standardised length of stay

Overview

Public and private hospitals treat different kinds of patients, who may have different characteristics and thus a different length of stay (LOS). This means an unadjusted mean length of stay is a poor metric for comparing public and private hospitals, since differences may be attributable to different mixes of cases they treat ('casemix').

Method

We grouped patients into like categories based on their Diagnosis Related Group (DRG), and within-DRG variation for factors such as their admission status (elective or emergency), age, gender, other complexity factors not taken into account in DRGs, and discharge destination.

We use direct standardisation to form a 'comparable length of stay' for the public system. This method slices the public hospital data set by DRG, complexity, age, and gender. It then calculates the mean LOS for each 'slice' of the data $\mu_{d,a,g,c,u,s}$which corresponds to a DRG, age bracket, gender complexity score, urgency of admission, and separation mode (for example, emergency female simple knee replacements aged 55-60 with a complexity score of 3 discharged home).

Table B.1: Descriptive statistics for the data set, 2017-18

	Number of cases	Mean length of stay (days)
All patients:		
Public hospitals	6,587,348	2.76
Private hospitals	4,426,467	2.15
Total	11,013,815	2.52
Overnight patients:		
Public hospitals	3,076,034	4.95
Private hospitals	1,290,452	4.77
Total	4,366,486	4.83

Note: Both same-day and single night admissions are coded with length of stay 1.

We then form an aggregate comparable public length of stay estimate by multiplying the mean LOS for each 'slice' by the proportion of private observations that fall within the same slice:

$$L_A = \sum_{d=1}^{D} \sum_{a=1}^{A} \sum_{g=1}^{3} \sum_{c=1}^{C} \sum_{u=1}^{U} \sum_{s=1}^{S} \mu_{d,a,g,c,u,s} \times \rho_{d,a,g,c,u,s}$$

Where:

- $\mu_{d,a,g,c,u,s}$ is mean length of stay for public patients with DRG d, complexity c, age bracket a, gender g, separation mode s, and urgency u;
- $\rho_{d,a,g,c}$ is the proportion of private patients with DRG d, complexity c, age bracket a, gender g, separation mode s, and urgency u;
- D is the number of DRGs;
- A is the number of age brackets;
- C is the number of MACSS additional diagnosis (a measure of within-DRG variation);[154]
- U is the urgency of admission (elective/emergency); and
- S is the separation mode.

This approach lets us standardise for both differences in casemix and in the risk profile of patients. This is important because there may be meaningful differences in the characteristics of patients who are treated in private vs public hospitals. For example, an older patient requiring a knee replacement may be more likely to be admitted to a private hospital because they are more likely to have private hospital coverage. In aggregate, this would mean that the longer LOS for private knee replacements may be attributable to the age of patient and not the efficiency of service.

There are a few drawbacks to this approach, however. First, we cannot adjust for all the variables that may influence the risk profile of patients. Second, our normalisation process excludes certain DRGs since there is not always sufficient data to match 'risk slices' in the public system with 'risk slices' in the private system (or vice versa). For example, our dataset did not contain any cases of privately treated Severe Nutritional Disturbance (Minor Complexity) among females aged 30-34 with two additional diagnosis, so we cannot include such cases in our analysis.

Calculation of Figure 3.1 & Figure 3.2

Figure 3.1 is calculated by iteratively adding variables to our standardisation process. We created this figure through the following process:

- Estimate raw mean private LOS
- Estimate public LOS standardising for private DRG mix[155]
- Estimate public LOS standardising for private DRG mix and private complexity
- Estimate public LOS standardising for private DRG mix, complexity, and urgency
- Estimate public LOS standardising for private DRG mix, complexity, urgency, and separation mode
- Estimate public LOS standardising for private DRG mix, complexity, urgency, separation mode, and age

154. Holman et al (2005).

155. This is done use the standardisation methodology outlined in this appendix.

- Estimate public LOS standardising for private DRG mix, complexity, urgency, separation mode, age, and gender

Each data point corresponds to the difference between the estimated adjusted LOS in the previous step, and the estimated adjusted LOS in the current step. The results are summarised by patient group in Table B.2.

Table B.2: Length of stay by patient group

		Matched records	
	Total	Unadjusted length of stay	Adjusted length of stay
All patients			
Public hospitals	2.76	2.27	1.92
Private hospitals	2.15	2.09	
Overnight patients			
Public hospitals	4.77	4.05	3.94
Private hospitals	4.95	4.74	

Maternity and hip standardisation

In Section 3.1.1 and Section 3.1.2 we reference adjusted public LOS statistics for hip replacements and maternal care. The method we use to produce these figures is identical to the method outlined above.

For maternal care, we standardise for the same variables in the same order as we do for the whole dataset above. For hip replacements, we do the same except for DRG (because all observations are from the same DRG).

B.3 Is length of stay a good proxy for cost?

Rationale

The Private Hospital Data Bureau of the Commonwealth Department of Health collects and publishes information about private hospital bills.[156] This information is published at the DRG level, so unfortunately does not allow the more sophisticated analysis, taking into account within-DRG variation, which we did using LOS differences.

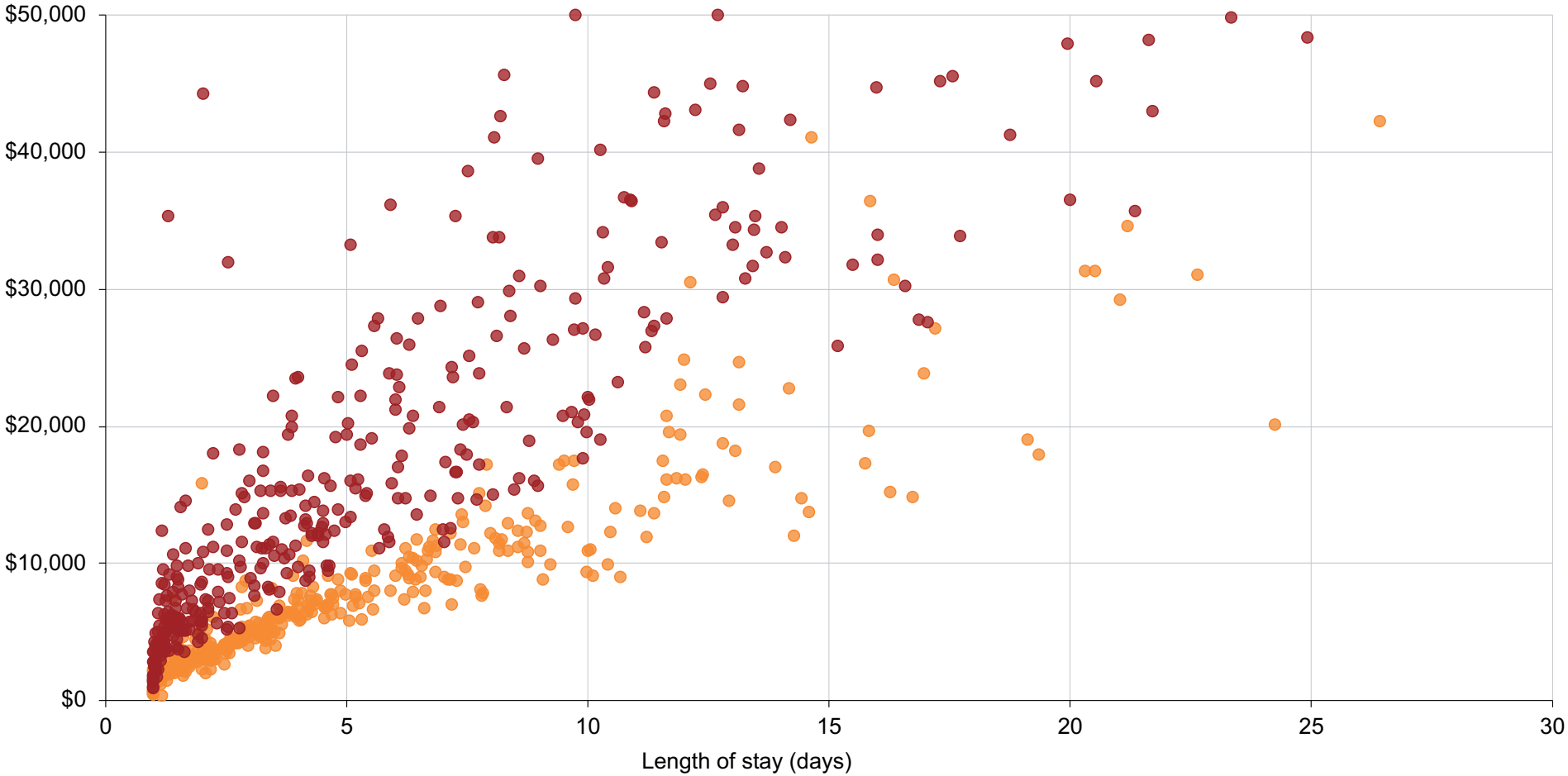
The Independent Hospital Pricing Authority publishes DRG-level information for public hospitals, although this is costing rather than charging information.[157] For the purposes of comparing efficiency, it is appropriate to use these different bases of comparisons because they both reflect what payers have to pay.

This suggests that the variations in LOS that have been identified probably also reflect variations in cost.

Figure B.1 on the following page shows the relationship between public and private hospital costs and charges.[158]

156. See the Private Hospital Data Bureau (PHDB): Department of Health (2019d).
157. Independent Hospital Pricing Authority (2019a).
158. In this figure we have used the term ‘cost’ to refer to charges in private hospitals and costs in public hospitals.

Figure B.1: There is a strong relationship between cost and length of stay
Cost per admission



Notes: Grattan analysis of data from Independent Hospital Pricing Authority (public hospitals). Private Hospital Data Bureau (private request).

To explore this further, we use a series of regression models to quantify the relationship between LOS and cost at the DRG level. We find that LOS explains between 65 per cent and 80 per cent of the variation in cost. This suggests that the variations in LOS that have been identified probably also reflect variations in cost.

It appears that the relationship between cost and LOS is weaker for the private hospitals, which may reflect the fact that private hospitals tend to charge less for general hospital costs and more for medical and prosthetic costs. However, we feel that the relationship is still strong enough to rely upon.

Model structures

We estimate four models via OLS regression.

Model 1: All public + private *joined* (volume weighted)

$$Cost_i = \hat{\beta}_0 + \hat{\beta}_1 SURGICAL_i + \hat{\beta}_2 (PTELOS_i \cdot \mu_{pte} + PUBLOS_i \cdot \mu_{pub})$$

Model 2: All public

$$Cost_i = \hat{\beta}_0 + \hat{\beta}_1 SURGICAL_i + \hat{\beta}_2 PUBLOS_i$$

Model 3: All private

$$Cost_i = \hat{\beta}_0 + \hat{\beta}_1 SURGICAL_i + \hat{\beta}_2 PTELOS_i$$

Model 4: All public + private DRGs *separately*

$$Cost_i = \hat{\beta}_0 + \hat{\beta}_1 SURGICAL_i + \hat{\beta}_2 PUBLOS_i + \hat{\beta}_3 PTELOS_i + \hat{\beta}_4 PRIVATE_i$$

Where:

- $Cost_i$ is the average overall charge per separation ($) for private hospitals and the average cost per DRG ($) for public sector hospitals for a given DRG i.
- $PUBLOS_i$ is the mean public length of stay for DRG i.
- $PTELOS_i$ is the mean private length of stay for DRG i.
- $SURGICAL_i$ is a dummy variable that takes on the value 1 if the ith DRG is surgical and is 0 otherwise.
- $PRIVATE_i$ is a dummy variable that takes on the value 1 if the observation is private and is 0 otherwise.
- μ_{pte} is the proportion of patients who are in the private sector for the ith DRG.
- μ_{pub} is the proportion of patients who are in the public sector for the ith DRG.

Results

The regression results for Models 1-4 are shown in Table B.3 below.

Table B.3: Regression results for Models 1-4

	Model 1	Model 2	Model 3	Model 4
(Intercept)	-4340.51***	-6330.70***	-4301.36***	-4393.67***
p:	0	0	0	0
Surgical	9844.05***	8558.96***	12272.73***	11378.00***
p:	0	0	0	0
LOS	2356.90***	3079.36***	1569.05***	2574.68***
p:	0	0	0	0
Private				-6558.84***
p:				0
N	786	802	758	1560
R2	0.73	0.81	0.66	0.74

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

B.4 Pricing over-provision

In Chapter 5, we produce a range of estimates for the cost of over-provision of care. We do this by deeming all admissions over a particular threshold of the proportion of admissions to private hospitals as potential over-provision. To produce these estimates, we use the following method:

1. Calculate the proportion of separations that are elective for each DRG, and drop all DRGs that are less than 75 per cent elective. We call the remainder elective DRGs.
2. Calculate the total number of separations that are in each of the elective DRGs.
3. Calculate the cost savings that could be realised for each DRG as a proportion of the admissions to private hospitals did not occur i.e. we model different proportions of admissions which potentially reflect overservicing.
4. Sum DRG-level cost savings to produce a total cost savings estimate.

We again use private hospital prices data from the 2016-17 Hospital Casemix Protocol (HCP) annual report to estimate these cost savings.

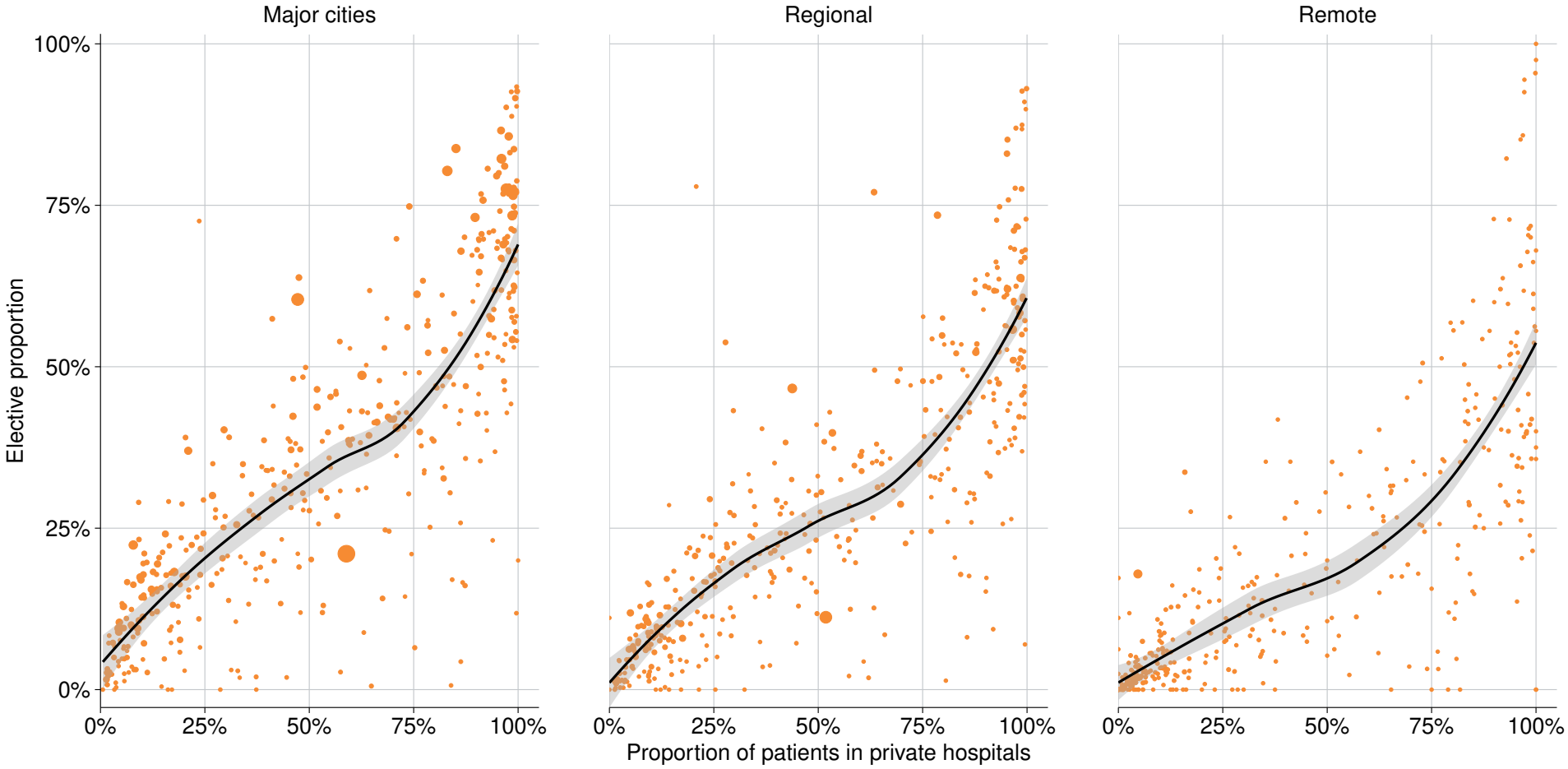
Appendix C: Private hospitals in remote communities

C.1 Remote patients are less likely to visit a private hospital

Figure C.1 highlights geographic variation in the use of private hospitals. It examines the proportion of admissions in each DRG to private hospitals by different regional areas. The proportion in private hospitals is much lower outside metropolitan areas, reflecting the lower private hospital provision rate in those areas.

The lower population size and the limited number of private/elective operations means that there is much more variance in the relationship between elective and private proportions in remote communities. This is highlighted in the confidence bands in Figure C.1 on the next page, which are much wider for remote and very remote patients.

Figure C.1: Remote patients are less likely to visit a private hospital
Proportion of admissions that are elective, by DRG (sizes proportional to total number of admissions)



Appendix D: Enhancing care in the home

Private care has fallen behind public care in facilitating treatment in a patient's home. This appendix explores two areas where red tape is hindering contemporary best practice provision: hospital substitute programs, and rehabilitation.

D.1 Care in the home and 'hospital substitute treatment'

Patients are often treated in a hospital when it may be more clinically appropriate for them to be treated in their own home but with nursing or other clinical support. Typical treatments now available in the home include providing intravenous (in-the-vein) treatments such as anti-biotics, or hydration. Providing that care in hospitals instead of in a patient's home creates inconvenience for the patient and adds to the costs of health care in Australia.

Since 2007, health funds have been allowed to pay benefits for services provided outside the hospital system, but which are part of an episode of hospital treatment (often called hospital-in-the-home), or to prevent or substitute for hospital care (often referred to as hospital-substitute treatment).[159]

Few activities are delivered under hospital-substitute arrangements; they accounted for only about 4 per cent of hospital treatment episodes, and 0.5 per cent of benefits paid, in 2018-19.[160] The most common examples of hospital-substitute treatment include intravitreal therapy and wound care.

Pilot programs are now being conducted for out-of-hospital rehabilitation, chemotherapy, haemodialysis, and palliative care.[161] But legislative restrictions[162] limit the expansion of these programs, including to other treatment areas such as obstetrics, cancer care, and mental health, which may be more efficiently provided outside the hospital system.[163]

Current regulatory settings support high-cost inpatient treatment. This discourages private providers and health insurers from developing alternate models for lower-cost out-of-hospital treatment.[164]

Current regulations mandate payment for all in-hospital-based care.[165] But it is not mandatory for health insurers to pay benefits for hospital-substitute treatment. The legislation is so complex that it is difficult to interpret what is allowed under the Act. Each private hospital must negotiate contracts with each private health insurer, and in some circumstances private hospitals are in direct competition with health insurers who may also be in the business of service delivery. Private health insurers' decisions about what is funded may also change from

159. For services provided outside the hospital's physical boundaries (hospital-in-the-home), the patient may still be considered an admitted patient for the payment of benefits by the health fund. Under hospital-substitute treatment, a patient is not considered to be an admitted patient.
160. Australian Prudential Regulation Authority (2019c).
161. Examples include the Medibank at Home Program and BUPA's Palliative Care Choice Program.
162. Legislation prevents health insurers from covering medical services that are provided out-of-hospital and covered by Medicare except in designated Hospital Substitute Programs.
163. Private Healthcare Australia (2017).
164. The Private Health Insurance Ministerial Advisory Committee's Improved Models of Care Working Group looked at options for the funding and provision of rehabilitation and mental health services in outpatient settings. It found that while regulation did not prevent alternative models of care, there were inappropriate incentives in support of in-hospital care: Department of Health (2019c).
165. Other than services for which there is no MBS items, such as cosmetic surgery. If our single hospital billing model were to be adopted, cosmetic surgery would still be excluded.

contract to contract. This reduces the incentive for private hospitals to invest in hospital-substitute programs.[166]

Regulatory settings should support people's access to the most efficient form of care. It should be easier for private health insurers to pay for better alternatives to inpatient care, where they can deliver the same clinical outcomes but at a lower cost. Similarly, private hospitals should have more certainty about reimbursement when they invest in alternatives to inpatient care. There are opportunities for system-wide efficiencies by shifting from inpatient to outpatient settings – particularly for rehabilitation, psychiatric care, and intravitreal injections.[167]

The private hospital substitute program shambles has a parallel in public hospital services. The Commonwealth growth funding to the states applies only to approved services, including out-of-hospital services which are:

> directly related to an inpatient admission or an emergency department attendance; or intended to substitute directly for an inpatient admission or emergency department attendance.[168]

This mirrors very closely the criteria for private hospital substitute programs.

For public hospitals, the Independent Hospital Pricing Authority (IHPA) is charged with assessing whether specific programs fall within scope. We propose that the IHPA be given similar responsibility to make eligibility determinations for private hospital substitute programs.[169] If a program has been approved by the IHPA, private health insurers should be required to pay for it at the private National Efficient Price.[170]

Under our proposal, doctors would also be able to establish hospital-substitute programs and have them approved for funding. This would provide a further element of competition and reduce unnecessary hospital admissions.

166. Similar issues bedevil development of private chronic disease management programs: Khoo et al (2019).
167. Private Healthcare Australia (2017).
168. Independent Hospital Pricing Authority (2019b).
169. Programs approved by the IHPA should include those which are nurse-delivered.
170. Payment at the National Efficient Price implies that the IHPA has adequate data to set a price. It would be the responsibility of private hospitals proposing programs to provide such data to the IHPA.

D.2 Rehabilitation

Recent research has questioned the relative value of inpatient rehabilitation compared to outpatient rehabilitation,[171] and even compared to home-based exercise programs.[172]

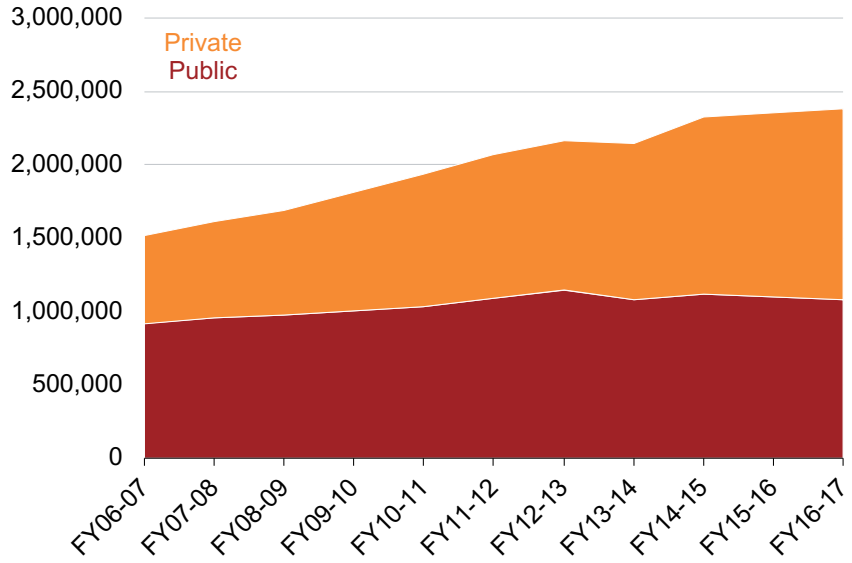
Private inpatient rehabilitation bed days more than doubled in the past decade – from 597,788 days in 2006-07 to 1,305,426 days in 2016-17 (see Figure D.1) In contrast, public rehabilitation bed days increased by only 18 per cent. The difference could be driven by financial incentives rather than patient characteristics, as has been reported in the US.[173]

Although inpatient rehabilitation for carefully selected patients is clearly beneficial,[174] the wide variation in patterns of referral to rehabilitation suggests opportunities for system improvement. If outcomes are no different and costs are less in outpatient rehabilitation, then these higher rates of inpatient rehabilitation can be seen as another type of low-value care.

It should be easier for private hospitals to provide home-based or ambulatory alternatives to inpatient rehabilitation. The processes we have recommended for reducing low-value care should apply to addressing variation in use of forms of rehabilitation.

Figure D.1: Almost all the growth in rehabilitation days in the past decade has been in private hospitals

Number of inpatient rehabilitation days, 2006-07 to 2016-17



171. Aasdahl et al (2017); and Clark et al (2015).
172. Han et al (2015).
173. Regenbogen et al (2019).
174. Royal Australasian College of Surgeons (2018).

Appendix E: Prostheses

There are significant differences in the average prosthesis costs among surgeons,[175] and surgeons' choices do not necessarily take into account the quality of the prostheses, at least as measured by the revision rate.

Information contained in procedure registries – such as the joint registry – should be used to establish information about the lifetime cost-effectiveness of prostheses.[176] This is well established in the case of hip and knee prostheses, but such an arrangement should be applied outside orthopaedics.[177]

There is significant variation in revision rates for prostheses.[178] The cost of a revision, including the cost of the second hospital admission, is many times the cost of the initial prosthesis.

About three quarters of prostheses chosen by orthopaedic surgeons are not among the top 10 in terms of quality as measured by revision rates.[179] It is unlikely that those surgeons have fully informed their patients of the choices that they have made on their patients' behalf and the risks that they have imposed on their patients.[180] This ought to be seen as a breach of medical ethics.[181] The Government's planned fee transparency website[182] should incorporate transparency about surgeons' prosthesis choices too.

Steps to implement better pricing, including better collection of information, should be part of a pricing reform agenda. The English National Health Service, for example, has introduced best-practice tariffs, including for hip replacements, which reward services that have better patient-reported outcomes.[183]

At least one US health system has introduced a lifetime hip and knee guarantee, where the hospital group bears the full cost of any revision.[184] Some form of accountability for revision rates should be on the agenda in Australia too.

Hospitals where the initial surgery is performed should bear the cost of future prosthesis revisions – introducing a lifetime guarantee.[185] Insurers should incorporate this lifetime guarantee into their contracts with private hospitals, and private health insurers should not be forced by legislation to pay for revisions, especially where a poorer-performing prosthesis has been used.[186]

Prosthesis costs should be bundled into a single hospital bill. Private hospitals would be reimbursed at the average cost for prostheses for

175. Royal Australasian College of Surgeons and Medibank (2016).
176. Fawsitt et al (2019); and Davies et al (2010).
177. About half of the items with regulated prices in the prosthesis list are orthopaedic.
178. Royal Australasian College of Surgeons and Medibank (2016); Australian Orthopaedic Association National Joint Replacement Registry (2018); and Oethopaedic Data Evaluation Panel (2019).
179. Australian Orthopaedic Association National Joint Replacement Registry (2017, Table SV3). Some surgeons achieve good outcomes regardless of what prostheses they chose.
180. It is acknowledged that prostheses not in the top ten may perform as well in terms of revision rate when implanted by the best surgeons.
181. Duckett (2018). Our point here is that the failure to disclose and consult with patients is the ethical breach, not that other prosthesis combinations should never be used.
182. Ministerial Advisory Committee on Out-of-Pocket Costs (2018).
183. England and Improvement (2019).
184. Geisinger (2019); as part of a wider approach to bundling: Slotkin et al (2017).
185. The expected cost of revision, for better-performing prostheses, could be incorporated into the National Efficient Price for the initial prosthesis.
186. If our proposal for participating hospitals is adopted, then a lifetime guarantee could be incorporated as a condition of participation.

patients in the relevant DRG. If a surgeon wanted to implant a more costly prosthesis, the hospital should absorb that cost. Private hospitals would then have an incentive to purchase prostheses efficiently, and, because of the effect of the lifetime guarantee, ensure that their surgeons select better-performing prostheses.[187]

Paying at an average price is unlikely to have much impact on selection of the appropriate prosthesis for a patient. In the case of hip prostheses, for example, more than one third of surgeons select from two prosthesis sets in at least 90 per cent of their operations, and one third selects from two sets in more than 70 per cent of operations.[188]

If our proposal for hospitals to offer a lifetime revision guarantee is not adopted, private health insurers should use their contracts with private hospitals to ensure that hospitals (and surgeons) do not sacrifice quality for price. Private health insurers should not be required to reimburse for prostheses which are more likely to lead to a revision.

Under the current system, the Prosthesis List Advisory Committee sets thousands of prices for prostheses. A new role for the committee could include identifying whether there is any evidence that a prosthesis has superior performance[189] and, if so, the extent of a moiety which might be appropriate. Private health insurers should be required to pay this moiety as a supplement to the standard DRG price.

The committee should no longer set prices for individual prostheses – other than the moiety – because the bundled pricing approach proposed in this report would effectively price all prostheses used for a specific procedure at the average for that procedure.

The current prosthesis price setting arrangements – overseen by a Prosthesis List Advisory Committee – are worthy of a Monty Python sketch. They include centralised price setting for 10,000 separate prostheses. The process has been captured by device suppliers and demonstrably constrains competition.[190] The prices set by the committee appear to be above comparative prices internationally.[191] Prosthesis prices are set without the market discipline of an open tender, unlike the situation for other types of procurement. State healthcare purchasing authorities and the New Zealand purchaser drive price reductions using tenders for prostheses. Australia should follow suit and tender for prostheses, in addition to introducing payment bundling as outlined in this report.

187. This should be accompanied by strategies to increase accountability for revision rates too.
188. Australian Orthopaedic Association National Joint Replacement Registry (2017, Table SV3).
189. Or ‘non-inferior’ performance, a category used by the Australian Orthopaedic Association National Joint Replacement Registry (2018).
190. One reason for rejecting a proposal in 2015 which would have reduced prices for one item from $412 to $99 was that the change would need to apply to other items and so industry consultation would be required and there was ‘no evidence that the proposed change . . . would be supported by the vast majority of other product sponsors’. See *Applied Medical Australia Pty Ltd v Minister for Health* [2016] FCA 35.
191. Senate Community Affairs References Committee (2017).

Appendix F: Low-value care

Low-value care is

> use of an intervention where the evidence suggests it confers no or very little benefit on patients, or the risk of harm exceeds likely benefit, or, more broadly, the added costs of the intervention do not provide proportional added benefits.[192]

Overuse, over-diagnosis, and provision of low-value care is endemic around the world.[193] In Australia, there is substantial variation in rates of procedures and diagnoses in different geographic areas.[194] As we have argued in a previous Grattan Institute report, studies of geographic variation are indicative but not definitive: do areas with high rates of surgery have too much care, or do areas with low rates of surgery have too little care?[195]

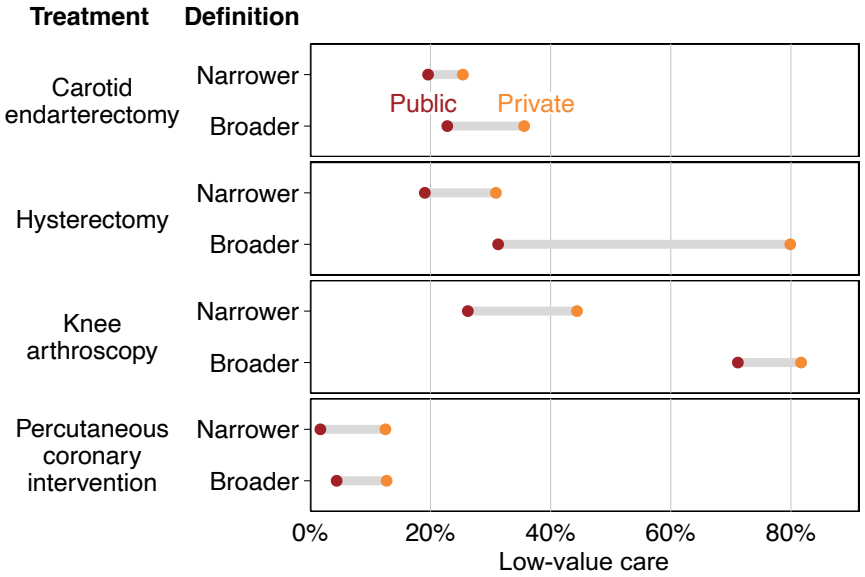
In that previous report we focused on care which was definitively contra-indicated – such as arthroscopy for osteoarthritis of the knee – to identify care which on the face of it was questionable. The list of no- or low-value procedures gets longer by the day – we identified five procedures in our 2015 study, an Australian study published this year identified 29,[196] and an international literature review identified 74 unique low-value healthcare services which can be clearly defined and measured.[197] Techniques to identify low-value prescribing practices have also been developed.[198]

Researchers can differ on when care is likely to make no or little contribution to improving the patient's health status. Researchers at the University of Sydney have identified rates of low-value care using conservative definitions of when care is likely to be of low value (termed 'narrower definition' in Figure A.1) and also definitions of low-value care which capture more diagnosis-procedure combinations ('broader definition').

Rates of low-value care – using either narrow or broad definitions – are higher in private hospitals than in public hospitals (see Figure F.1), perhaps reflecting that there is less constraint on admissions to private hospitals, and perhaps the effect of financial incentives on surgeons to recommend low-value care.

192. Scott and Duckett (2015).
193. Brownlee et al (2017).
194. Australian Commission on Safety and Quality in Health Care and National Health Performance Authority (2015); and Australian Commission on Safety and Quality in Health Care and Australian Institute of Health and Welfare (2017).
195. Duckett et al (2015).
196. Badgery-Parker et al (2019).
197. Chalmers et al (2017).
198. Brett et al (2017); and Brett et al (2018).

Figure F.1: There is a higher incidence of low-value care in private hospitals than public hospitals



Sources: Private rates: Chalmers et al (2019); Public rates: Badgery-Parker et al (2019).

Appendix G: Low-volume care

The more often a surgeon or hospital does a procedure, the better the patient outcomes.[199] This relationship, known as the volume-outcome relationship, is pervasive.[200] Indeed one review of the literature concluded:

> In our review, we were not so much struck by the observation that volume-outcome associations were so prevalent, but by the remarkable finding that it was impossible to identify a health service that had been evaluated in more than one study that did not have a volume-outcome association.[201]

A recent systematic review of systematic reviews concluded:

> Most reviews tend to support the presence of a surgeon volume-outcome relationship. This is most clear-cut in colorectal cancer, bariatric surgery, and breast cancer where reviews of high quality show large effects.[202]

The Productivity Commission has recently proposed reforms to improve published information on hospitals and specialists.[203] Information should be available to patients on hospital and surgical volume. In line with developments in the US, Australians have a right to know the answer to the question: 'How often does my hospital and my surgeon[204] perform this procedure?'[205]

Private health insurers should use their agreements and contracts with private hospitals to encourage consolidation of activity in areas where there is a demonstrable volume-outcome relationship which materially affects outcomes. Insurers should not be required to pay benefits to hospitals which are low-volume providers.

Any volume-outcome standards across insurers must be consistent. The Australian Commission on Safety and Quality in Health Care again has an important role to play here.

We propose that insurers and consumer groups should be able to nominate for the Commission's consideration procedures or conditions where there is evidence of a volume-outcome relationship. If the Commission accepts there is such a relationship, it should publish this on its website and insurers should then be able to incorporate that in their contracting policies.[206]

199. Urbach et al (2005); and Sternberg and Dougherty (2015).
200. Morche et al (2016).
201. Urbach et al (2005).
202. Morche et al (2016).
203. Productivity Commission (2017).
204. Or medical proceduralist such as an endoscopist.
205. US News recently included procedure volumes in rankings for hospital performance on five major operations. A US consumer could investigate, for instance, which hospitals are considered high-performing at knee replacement: http://health.usnews.com/best-hospitals/hospital-ratings/knee-replacement. In response, several high-profile US institutions 'Took the Volume Pledge' by agreeing on minimum annual volume thresholds for operations: Sternberg (2015).
206. The Commission is well placed to balance the potential uncertainty of evidence against the risks to patients, Royal Australasian College of Surgeons (2019).

Bibliography

Aasdahl et al (2017). Aasdahl, L., Pape, K., Vasseljen, O., Johnsen, R., Gismervik, S., Jensen, C. and Fimland, M. S. "Effects of Inpatient Multicomponent Occupational Rehabilitation versus Less Comprehensive Outpatient Rehabilitation on Somatic and Mental Health: Secondary Outcomes of a Randomized Clinical Trial". *Journal of Occupational Rehabilitation* 27.3, pp. 456–466. ISSN: 1573-3688. DOI: 10.1007/s10926-016-9679-5. https://doi.org/10.1007/s10926-016-9679-5.

Arrow, K. J. (1963). "Uncertainty and the welfare economics of medical care". *American Economic Review* 53.5, pp. 941–73.

Aubusson, K. and Cunningham, M. (2019). "How much does it cost to have cancer?" *Sydney Morning Herald* April 14. https://www.smh.com.au/healthcare/how-much-does-it-cost-to-have-cancer-20190412-p51dlf.html.

Australian Bureau of Statistics (2017). *National Health Survey: Health Service Usage and Health Related Actions, Australia, 2014–15*. Cat No. 4364.0.55.002, Canberra: ABS.

Australian Commission on Safety and Quality in Health Care and National Health Performance Authority (2015). *Australian Atlas of Healthcare Variation*. ACSQHC.

Australian Commission on Safety and Quality in Health Care and Australian Institute of Health and Welfare (2017). *The Second Australian Atlas of Healthcare Variation*. ACSQHC.

Australian Competition and Consumer Commission (2018). *Report to the Australian Senate on anti-competitive and other practices by health funds and providers in relation to private health insurance for the period 1 July 2017 to 31 December 2018*. Canberra: ACCC.

Australian Institute of Health and Welfare (2018). *Health expenditure Australia 2016-7*. AIHW.

_____ (2019a). *Admitted patient care 2017-18: Australian hospital statistics*. AIHW.

_____ (2019b). *National Core Maternity Indicators 2017: summary report*. AIHW cat no. PER 104, Canberra.

_____ (2019c). *Elective surgery waiting times 2017–18: Australian hospital statistics*. AIHW cat no. HSE 215, Canberra: AIHW.

Australian Medical Association (2019a). *Private health on the Minister's mind*. AMA. https://ama.com.au/ausmed/private-health-minister%E2%80%99s-mind.

_____ (2019b). *Informed Financial Consent – a Collaboration between doctors and patients. Assisting patients to understand their health care and its costs*. AMA.

Australian Orthopaedic Association National Joint Replacement Registry (2017). *Hip, Knee & Shoulder Arthroplasty: 2017 Annual Report*. AOA.

_____ (2018). *Hip, Knee & Shoulder Arthroplasty: 2018 Annual Report*. AOA.

Australian Prudential Regulation Authority (2019a). *Private Health Insurance Medical Services Statistics, June 2019*. APRA.

_____ (2019b). *Private Health Insurance Membership and Benefits, June 2019*. APRA.

_____ (2019c). *Private health insurance statistical trends*. APRA.

Australian Tax Office (2019). *Taxation statistics 2016-17*. Australian Tax Office. https://www.ato.gov.au/About-ATO/Research-and-statistics/In-detail/Taxation-statistics/Taxation-statistics-2016-17/?anchor=Individuals#Chart5.

Badgery-Parker et al (2019). Badgery-Parker, T., Pearson, S.-A., Chalmers, K., Brett, J., Scott, I. A., Dunn, S., Onley, N. and Elshaug, A. G. “Low-value care in Australian public hospitals: prevalence and trends over time”. *BMJ Quality & Safety* 28.3, pp. 205–214. DOI: 10.1136/bmjqs-2018-008338. https://qualitysafety.bmj.com/content/qhc/early/2018/08/06/bmjqs-2018-008338.full.pdf.

Berend et al (2018). Berend, M. E., Lackey, W. G. and Carter, J. L. “Outpatient-Focused Joint Arthroplasty Is the Future: The Midwest Center for Joint Replacement Experience”. *The Journal of Arthroplasty* 33.6, pp. 1647–1648. ISSN: 0883-5403. DOI: https://doi.org/10.1016/j.arth.2018.02.002. http://www.sciencedirect.com/science/article/pii/S0883540318301141.

Berger et al (2016). Berger, R. A., Cross, M. B. and Sanders, S. “Outpatient Hip and Knee Replacement: The Experience From the First 15 Years”. *Instructional course lectures* 65, pp. 547–551. ISSN: 0065-6895. http://europepmc.org/abstract/MED/27049219.

Brett et al (2017). Brett, J., Elshaug, A. G., Bhatia, R. S., Chalmers, K., Badgery-Parker, T. and Pearson, S.-A. “A methodological protocol for selecting and quantifying low-value prescribing practices in routinely collected data: an Australian case study”. *Implementation Science* 12.58. ISSN: 1748-5908. DOI: 10.1186/s13012-017-0585-9. https://doi.org/10.1186/s13012-017-0585-9.

Brett et al (2018). Brett, J., Zoega, H., Buckley, N. A., Daniels, B. J., Elshaug, A. G. and Pearson, S.-A. “Choosing wisely? Quantifying the extent of three low value psychotropic prescribing practices in Australia”. *BMC Health Services Research* 18.1009. ISSN: 1472-6963. DOI: 10.1186/s12913-018-3811-5. https://doi.org/10.1186/s12913-018-3811-5.

Brook, R. H. and Lohr, K. N. (1986). “Will we need to ration effective health care?” *Issues in Science and Technology* 3.1, pp. 68–77.

Brown et al (2004). Brown, S., Bruinsma, F., Darcy, M.-A., Small, R. and Lumley, J. “Early discharge: no evidence of adverse outcomes in three consecutive population-based Australian surveys of recent mothers, conducted in 1989, 1994 and 2000”. *Paediatric and Perinatal Epidemiology* 18.3, pp. 202–213. ISSN: 0269-5022. DOI: 10.1111/j.1365-3016.2004.00558.x. https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1365-3016.2004.00558.x.

Brownlee et al (2017). Brownlee, S. et al. “Evidence for overuse of medical services around the world”. *The Lancet* 390.10090, pp. 156–168. ISSN: 0140-6736. DOI: http://dx.doi.org/10.1016/S0140-6736(16)32585-5. http://www.sciencedirect.com/science/article/pii/S0140673616325855.

Butler, J. (1995). *Hospital cost analysis*. Dordrecht: Kluwer Academic.

Callander et al (2019). Callander, E. J., Fox, H. and Lindsay, D. “Out-of-pocket healthcare expenditure in Australia: trends, inequalities and the impact on household living standards in a high-income country with a universal health care system”. *Health Economics Review* 9 (10).

Chalmers et al (2017). Chalmers, K., Pearson, S.-A. and Elshaug, A. G. “Quantifying low-value care: a patient-centric versus service-centric lens”. *BMJ Quality & Safety* 26.10, pp. 855–858. DOI: 10.1136/bmjqs-2017-006678. https://qualitysafety.bmj.com/content/qhc/26/10/855.full.pdf.

Chalmers et al (2019). Chalmers, K., Pearson, S.-A., Badgery-Parker, T., Brett, J., Scott, I. A. and Elshaug, A. G. “Measuring 21 low-value hospital procedures: claims analysis of Australian private health insurance data (2010–2014)”. *BMJ open* 9.3, e024142. ISSN: 2044-6055.

Chua et al (2008). Chua, C. L., Palangkaraya, A. and Yong, J. *A two-stage estimation of hospital performance using mortality outcome measures: An application using Victorian hospital Data*. Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.

Chua et al (2011). Chua, C. L., Palangkaraya, A. and Yong, J. “Hospital Competition, Technical Efficiency and Quality”. *Economic Record* 87.277, pp. 252–268. http://dx.doi.org/10.1111/j.1475-4932.2010.00704.x.

Clark et al (2015). Clark, R. A., Conway, A., Poulsen, V., Keech, W., Tirimacco, R. and Tideman, P. “Alternative models of cardiac rehabilitation: A systematic review”. *European Journal of Preventive Cardiology* 22.1, pp. 35–74. DOI: 10.1177/2047487313501093. https://journals.sagepub.com/doi/abs/10.1177/2047487313501093.

Cole et al (2019). Cole, L., LeCouteur, A., Feo, R. and Dahlen, H. “"Trying to give birth naturally was out of the question": Accounting for intervention in childbirth”. *Women Birth* 32.1, e95–e101. ISSN: 1871-5192. DOI: 10.1016/j.wombi.2018.04.010.

Colla et al (2017). Colla, C. H., Mainor, A. J., Hargreaves, C., Sequist, T. and Morden, N. “Interventions Aimed at Reducing Use of Low-Value Health Services: A Systematic Review”. *Medical Care Research and Review* 74.5, pp. 507–550. DOI: 10.1177/1077558716656970. https://journals.sagepub.com/doi/abs/10.1177/1077558716656970.

Collared, S. (2017). “Breast cancer patients with private health insurance paying thousands, report finds”. *ABS News* September 24. https://www.abc.net.au/news/2017-09-24/privately-insured-women-with-breast-cancer-paying-thousands-fees/8979790.

Consumers Health Forum of Australia (2018). *Out of pocket pain*. CHF.

Crawford et al (2015). Crawford, D. C., Li, C. S., Sprague, S. and Bhandari, M. “Clinical and Cost Implications of Inpatient Versus Outpatient Orthopedic Surgeries: A Systematic Review of the Published Literature”. *Orthopedic reviews* 7.4, p. 6177. ISSN: 2035-8237. DOI: 10.4081/or.2015.6177. https://www.ncbi.nlm.nih.gov/pubmed/26793295.

Dahlen et al (2012). Dahlen, H. G., Tracy, S., Tracy, M., Bisits, A., Brown, C. and Thornton, C. “Rates of obstetric intervention among low-risk women giving birth in private and public hospitals in NSW: a population-based descriptive study”. *BMJ Open* 2.5. DOI: 10.1136/bmjopen-2012-001723. http://bmjopen.bmj.com/content/2/5/e001723.abstract.

Dahlen et al (2014). Dahlen, H. G., Tracy, S., Tracy, M., Bisits, A., Brown, C. and Thornton, C. “Rates of obstetric intervention and associated perinatal mortality and morbidity among low-risk women giving birth in private and public hospitals in NSW (2000–2008): a linked data population-based cohort study”. *BMJ Open* 4.5. DOI: 10.1136/bmjopen-2013-004551. http://bmjopen.bmj.com/content/4/5/e004551.abstract.

Dannenberg et al (2018). Dannenberg, M. D., Durand, M.-A., Montori, V. M., Reilly, C. and Elwyn, G. “Existing evidence summarization methods cannot guarantee trustworthy patient decision aids”. *Journal of Clinical Epidemiology* 102, pp. 69–77. ISSN: 0895-4356. DOI: https://doi.org/10.1016/j.jclinepi.2018.06.003. http://www.sciencedirect.com/science/article/pii/S0895435617311964.

Davies et al (2010). Davies, C., Lorgelly, P., Shemilt, I., Mugford, M., Tucker, K. and MacGregor, A. “Can choices between alternative hip prostheses be evidence based? a review of the economic evaluation literature”. *Cost Effectiveness and Resource Allocation* 8.20. ISSN: 1478-7547. DOI: 10.1186/1478-7547-8-20. https://doi.org/10.1186/1478-7547-8-20.

Deloitte Access Economics (2016). *Financial impacts of breast cancer in Australia*. Deloitte Access Economics and Breast Cancer Network. https://www2.deloitte.com/content/dam/Deloitte/au/Documents/Economics/deloitte-au-economics-financial-impact-breast-cancer-180917.pdf.

Department of Health (2019a). *Hospital Casemix Protocol Annual Report 2017-18*.

Department of Health (2019b). *Private health insurance reforms: Gold/Silver/Bronze/Basic product tiers*. Department of Health. https://www1.health.gov.au/internet/main/publishing.nsf/Content/89DCC17F86C24B4ACA2581BA007A2DC7/$File/20181010%20-%20GSBB%20fact%20sheet%20w%20tiers%20table.pdf.

_____ (2019c). *Informed Financial Consent Guide launched*. https://www.health.gov.au/ministers/the-hon-greg-hunt-mp/media/informed-financial-consent-guide-launched.

_____ (2019d). *Private Hospital Data Bureau (PHDB)*. Department of Health. https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-casemix-data-collections-about-PHDB.

Desai, T. and Davoren, S. (2018). *Doctors and costs disclosure: Time for clearer standards*. McCabe Centre for Law & Cancer.

Doiron, D. and Kettlewell, N. (2018). *Family formation and demand for health insurance*. University of Sydney.

Duckett, S. (1995). "Hospital payment arrangements to encourage efficiency: The case of Victoria, Australia." *Health Policy* 34, pp. 113–34. ISSN: 0168-8510.

_____ (2017). *Walking and chewing gum – policy needs to balance multiple policy objectives, not just consider one. Grattan Institute submission in response to the Options Paper on the growth of private patients in public hospitals*. Grattan Institute.

_____ (2018). *Good medical practice needs to be founded on patients' rights: Grattan Institute submission to the Medical Board of Australia's Public Consultation Paper on the draft revised Good medical practice: A Code of Conduct for doctors in Australia*. Melbourne, Vic.: Grattan Institute.

_____ (2019a). *Prosthesis pricing needs fundamental reform: Speech to ARCS (Association of Regulatory and Clinical Scientists)*. Grattan Institute.

_____ (2019b). *Getting the incentives right: Submission to the Independent Hospital Pricing Authority on the draft 2020-21 Pricing Framework*. Melbourne, Vic.: Grattan Institute.

Duckett et al (2014). Duckett, S., Breadon, P., Weidmann, B. and Nicola, I. *Controlling costly care: a billion-dollar hospital opportunity*. Melbourne, Vic.: Grattan Institute. ISBN: 9781925015522.

Duckett et al (2015). Duckett, S., Breadon, P., Romanes, D., Fennessy, P. and Nolan, J. *Questionable care: avoiding ineffective treatment*. Melbourne, Vic.: Grattan Institute. ISBN: 9781925015737.

Duckett et al (2018a). Duckett, S., Jorm, C., Danks, L. and Moran, G. *All complications should count: Using our data to make hospitals safer*. Melbourne, Vic.: Grattan Institute. ISBN: 9780648230717.

Duckett et al (2018b). Duckett, S., Jorm, C., Moran, G. and Parsonage, H. *Safer care saves money: How to improve patient care and save public money at the same time*. Melbourne, Vic.: Grattan Institute. ISBN: 9780648331117.

Duckett, S. and Nemet, K. (2019). *The history and purposes of private health insurance*. Melbourne, Vic.: Grattan Institute. ISBN: 978-1-925015-96-6.

Eckhardt et al (2019). Eckhardt, H., Smith, P. and Quentin, W. "Pay for Quality: using financial incentives to improve quality of care". *Improving healthcare quality in Europe: characteristics, effectiveness and implementation of different strategies*. Ed. by R. Busse, N. S. Klazinga, D. Panteli and W. Quentin. Copenhagen: WHO Regional Office for Europe, pp. 357–400.

Eijkenaar et al (2013). Eijkenaar, F., Emmert, M., Scheppach, M. and Schöffski, O. "Effects of pay for performance in health care: A systematic review of systematic reviews". *Health Policy* 110.2-3, pp. 115–130. http://www.sciencedirect.com/science/article/pii/S0168851013000183.

Emons, W. (1997). "Credence Goods and Fraudulent Experts". *The RAND Journal of Economics* 28.1, pp. 107–119. ISSN: 07416261. DOI: 10.2307/2555942. http://www.jstor.org/stable/2555942.

England, N. and Improvement, N. (2019). *2019/20 National Tariff Payment System – A consultation notice: Annex DtD. Guidance on best practice tariffs*. NHS Improvement.

Faunce, T. (2008). "Selim v Lele and the civil (industrial) conscription prohibition: constitutional protection against federal legislation controlling or privatising Australian public hospitals". *Journal of Law and Medicine* 16 (1), pp. 36–48.

——— (2009). "Constitutional limits on federal legislation practically compelling medical employment: Wong v Commonwealth; Selim v Professional Services Review Committee". *Journal of Law and Medicine* 17 (2), pp. 196–205.

Fawsitt et al (2019). Fawsitt, C. G. et al. "Choice of Prosthetic Implant Combinations in Total Hip Replacement: Cost-Effectiveness Analysis Using UK and Swedish Hip Joint Registries Data". *Value in Health* 22.3, pp. 303–312. ISSN: 1098-3015. DOI: https://doi.org/10.1016/j.jval.2018.08.013. http://www.sciencedirect.com/science/article/pii/S1098301518361606.

Fetter, R. (1991). "The DRG Patient Classification System: background". *DRGs: Their design and development*. Ed. by R. Fetter, D. Brand and D. Gamache. First. Ann Arbor: Health Administration Press, pp. 3–27.

Forbes et al (2010). Forbes, M., Harslett, P., Mastoris, I. and Risse, L. "Measuring the technical efficiency of public and private hospitals in Australia". *Australian Conference of Economists*. https://www.pc.gov.au/research/supporting/hospital-technical-efficiency/hospital-technical-efficiency.pdf.

Geisinger (2019). *Conditions and treatments: Lifetime hip and knee guarantee*. https://www.geisinger.org/patient-care/conditions-treatments-specialty/lifetime-hip-and-knee.

Gordon et al (2018). Gordon, L. G., Elliott, T. M., Olsen, C. M., Pandeya, N. and Whiteman, D. C. "Patient out-of-pocket medical expenses over 2 years among Queenslanders with and without a major cancer". *Australian Journal of Primary Health* 24, pp. 530–536.

Haese et al (2019). Haese, A. et al. "A comparative study of robot-assisted and open radical prostatectomy in 10 790 men treated by highly trained surgeons for both procedures". *BJU International* 123.6, pp. 1031–1040. ISSN: 1464-4096. DOI: 10.1111/bju.14760. https://onlinelibrary.wiley.com/doi/abs/10.1111/bju.14760.

Han et al (2015). Han, A. S. Y., Nairn, L., Harmer, A. R., Crosbie, J., March, L., Parker, D., Crawford, R. and Fransen, M. "Early Rehabilitation After Total Knee Replacement Surgery: A Multicenter, Noninferiority, Randomized Clinical Trial Comparing a Home Exercise Program With Usual Outpatient Care". *Arthritis Care & Research* 67.2, pp. 196–202. ISSN: 2151-464X. DOI: 10.1002/acr.22457. https://onlinelibrary.wiley.com/doi/abs/10.1002/acr.22457.

Hanning, B. W. T. (2007). "Length of stay benchmarking in the Australian private hospital sector". *Australian Health Review* 31.1, pp. 150–158. DOI: https://doi.org/10.1071/AH070150. https://www.publish.csiro.au/paper/AH070150.

Hellsten et al (2016). Hellsten, E., Chu, S., Crump, R. T., Yu, K. and Sutherland, J. M. "New pricing approaches for bundled payments: Leveraging clinical standards and regional variations to target avoidable utilization". *Health Policy* 120.3, pp. 316–326. ISSN: 0168-8510. DOI: 10.1016/j.healthpol.2016.02.004. http://dx.doi.org/10.1016/j.healthpol.2016.02.004.

Hoffmann et al (2018). Hoffmann, J. D., Kusnezov, N. A., Dunn, J. C., Zarkadis, N. J., Goodman, G. P. and Berger, R. A. "The Shift to Same-Day Outpatient Joint Arthroplasty: A Systematic Review". *The Journal of Arthroplasty* 33.4, pp. 1265–1274. ISSN: 0883-5403. DOI: https://doi.org/10.1016/j.arth.2017.11.027. http://www.sciencedirect.com/science/article/pii/S088354031731032X.

Holman et al (2005). Holman, C. D. J., Preen, D. B., Baynham, N. J., Finn, J. C. and Semmens, J. B. "A multipurpose comorbidity scoring system performed better than the Charlson index". *Journal of Clinical Epidemiology* 58.10, pp. 1006–1014. ISSN: 0895-4356. DOI: https://doi.org/10.1016/j.jclinepi.2005.01.020. http://www.sciencedirect.com/science/article/pii/S0895435605001484.

Hoxha et al (2017). Hoxha, I., Syrogiannouli, L., Braha, M., Goodman, D. C., Costa, B. R. da and Jüni, P. “Caesarean sections and private insurance: systematic review and meta-analysis”. *BMJ Open* 7.8, e016600. DOI: 10.1136/bmjopen-2017-016600. https://bmjopen.bmj.com/content/bmjopen/7/8/e016600.full.pdf.

Hunt, G. (2019). *Doorstop Transcript*. https://www.greghunt.com.au/doorstop-canberra-8/.

Independent Hospital Pricing Authority (2019a). *National Hospital Cost Data Collection Report, Public Sector, Round 21 (Financial year 2016-17)*. Independent Hospital Pricing Authority.

_____ (2019b). *General List of In-Scope Public Hospital Services Eligibility Policy*. IHPA.

Jan, S. (2019). “Making sense of paying for performance in health care: short-term targets versus patient-relevant outcomes”. *Australian Health Review* 43.5, pp. 500–501. DOI: https://doi.org/10.1071/AH18178. https://www.publish.csiro.au/paper/AH18178.

Johar et al (2017). Johar, M., Mu, C., van Gool, K. and Wong, C. Y. “Bleeding Hearts, Profiteers, or Both: Specialist Physician Fees in an Unregulated Market”. *Health Economics* 26.4, pp. 528–535. DOI: 10.1002/hec.3317.

Joynt Maddox et al (2019). Joynt Maddox, K. E., Orav, E. J., Zheng, J. and Epstein, A. M. “Post-Acute Care After Joint Replacement in Medicare’s Bundled Payments for Care Improvement Initiative”. *Journal of the American Geriatrics Society* 67.5, pp. 1027–1035. ISSN: 0002-8614. DOI: 10.1111/jgs.15803. https://onlinelibrary.wiley.com/doi/abs/10.1111/jgs.15803.

Khoo et al (2019). Khoo, J., Hasan, H. and Eagar, K. “Emerging role of the Australian private health insurance sector in providing chronic disease management programs: current activities, challenges and constraints”. *Australian Health Review* 43.5, pp. 572–577. DOI: https://doi.org/10.1071/AH18164. https://www.publish.csiro.au/paper/AH18164.

Koechlin et al (2017). Koechlin, F., Konijn, P., Lorenzoni, L. and Schreyer, P. “Comparing Hospitals and Health Prices and Volumes Across Countries: A New Approach”. *Social Indicators Research* 131.1, pp. 43–64. ISSN: 1573-0921. DOI: 10.1007/s11205-015-1196-y. https://doi.org/10.1007/s11205-015-1196-y.

Krieger, M. and Elias, I. (2018). “Total Hip in a Day: Setup and Early Experiences in Outpatient Hip Surgery”. *Hip Joint in Adults: Advances and Developments*. Ed. by K. M. Iyer. Singapore: Pan Stanford Publishing, pp. 267–285.

Levinson et al (2018). Levinson, W., Born, K. and Wolfson, D. “Choosing Wisely Campaigns: A Work in ProgressEvolution in the Ability of Choosing Wisely Campaigns to Reduce Health Care OveruseEvolution in the Ability of Choosing Wisely Campaigns to Reduce Health Care Overuse”. *JAMA* 319.19, pp. 1975–1976. ISSN: 0098-7484. DOI: 10.1001/jama.2018.2202. https://doi.org/10.1001/jama.2018.2202.

McRae, I. S. and van Gool, K. (2017). “Variation in the fees of medical specialists: problems, causes, solutions”. *Medical journal of Australia* 206 (4), pp. 162–63.

Medew, J. (2013). “Out of pocket and in trouble”. *Sydney Morning Herald* August 26. https://www.smh.com.au/politics/federal/out-of-pocket-and-in-trouble-20130825-2sjob.html.

Medical Board of Australia (2014). *Good medical practice: a code of conduct for doctors in Australia*. Medical Board of Australia. https://www.medicalboard.gov.au/Codes-Guidelines-Policies/Code-of-conduct.aspx.

Mihm, U. (2019). *Avoid these overpriced Silver Plus health insurance policies. Australians could be paying up to $1700 more for policies with less cover.* https://www.choice.com.au/money/insurance/health/articles/rip-off-silver-plus-health-insurance.

Miller et al (2012). Miller, Y. D., Prosser, J., S. and Thompson, R. “Going public: Do risk and choice explain differences in caesarean birth rates between public and private places of birth in Australia?” *Midwifery* 28.5, pp. 627–635. ISSN: 0266-6138. DOI: 10.1016/j.midw.2012.06.003. https://doi.org/10.1016/j.midw.2012.06.003.

Ministerial Advisory Committee on Out-of-Pocket Costs (2018). *Report*. Department of Health.

Morche et al (2016). Morche, J., Mathes, T. and Pieper, D. “Relationship between surgeon volume and outcomes: a systematic review of systematic reviews”. *Systematic reviews* 5.1, p. 204. ISSN: 2046-4053.

Moynihan et al (2018). Moynihan, R. et al. “Australia is responding to the complex challenge of overdiagnosis”. *Medical Journal of Australia* 209.8, pp. 332–334. ISSN: 0025-729X.

Naylor et al (2017). Naylor, J. M., Hart, A., Mittal, R., Harris, I. and Xuan, W. “The value of inpatient rehabilitation after uncomplicated knee arthroplasty: a propensity score analysis”. *The Medical journal of Australia* 207.6, pp. 250–255. ISSN: 0025-729X.

Nippita et al (2015). Nippita, T., Lee, Y., Patterson, J., Ford, J., Morris, J., Nicholl, M. and Roberts, C. “Variation in hospital caesarean section rates and obstetric outcomes among nulliparae at term: a population-based cohort study”. *BJOG: An International Journal of Obstetrics & Gynaecology* 122.5, pp. 702–711. ISSN: 1470-0328. DOI: 10.1111/1471-0528.13281. https://obgyn.onlinelibrary.wiley.com/doi/abs/10.1111/1471-0528.13281.

Norton et al (2018). Norton, A., Cherastidtham, I. and Mackey, W. *Mapping Australian higher education*. Grattan Institute.

Obermeyer et al (2019). Obermeyer, Z., Powers, B., Vogeli, C. and Mullainathan, S. “Dissecting racial bias in an algorithm used to manage the health of populations”. *Science* 366.6464, pp. 447–453. DOI: 10.1126/science.aax2342. https://science.sciencemag.org/content/sci/366/6464/447.full.pdf.

Oethopaedic Data Evaluation Panel (2019). *Products*. http://www.odep.org.uk/products.aspx.

Pauly, M. V. (1980). *Doctors and their workshops: Economic models of physician behavior*. Chicago: University of Chicago Press. ISBN: 0226650464.

Pope, G. C. (2011). “Overview of pay for performance models and issues”. *Pay for performance in health care: methods and approaches*. Ed. by J. Cromwell, M. G. Trisolini, G. C. Pope, J. B. Mitchell and L. M. Greenwald. Research Triangle Park, NC: RTI Press, pp. 33–75.

Porter, M. E. and Teisberg, E. O. (2006). *Redefining health care: creating value-based competition on results*. Boston, Mass.: Harvard Business School Press.

Private Healthcare Australia (2015). *Costing an arm and a leg. Making healthcare more affordable and accessible for Australians*. PHA.

——— (2017). *Pre-Budget Submission 2019-20 Improving the Value and Sustainability of Private Healthcare*. Private Healthcare Australia.

Productivity Commission (2009). *Public and private hospitals: Research Report*. Productivity Commission.

——— (2010). *Public and private hospitals - multivariate analysis : supplement to research report*. Melbourne: Productivity Commission.

——— (2017). *Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services*. Productivity Commission.

Quentin et al (2011). Quentin, W., Scheller-Kreinsen, D. and Busse, R. “Technological innovation in DRG-based hospital payment systems across Europe”. *Diagnosis-Related Groups in Europe: Moving towards transparency, efficiency and quality in hospitals*. Ed. by R. Busse, A. Geissler, W. Quentin and M. Wiley. Maidenhead: Open University Press.

Regenbogen et al (2019). Regenbogen, S. E., Cain-Nielsen, A. H., Syrjamaki, J. D., Chen, L. M. and Norton, E. C. “Spending On Postacute Care After Hospitalization In Commercial Insurance And Medicare Around Age Sixty-Five”. *Health Affairs* 38.9, pp. 1505–1513. ISSN: 0278-2715.

Restuccia et al (1987). Restuccia, J., Payne, S., Lenhart, G., Constantine, H. and Fulton, J. “Assessing the appropriateness of hospital utilization to improve efficiency and competitive position”. *Health Care Manage Rev* 12.3, pp. 17–27.

Richard, A. (2019). *The worst Basic health insurance policies. These policies will cost you more than a cheap Bronze policy, but give you less cover.* https://www.choice.com.au/money/insurance/health/articles/the-worst-basic-health-insurance-policies.

Royal Australasian College of Surgeons (2016). *Code of Conduct*. RACS.

_____ (2018). *Rehabilitation Pathways Following Hip and Knee Arthroplasty*. RACS.

_____ (2019). *Volume-outcome relationships: Pancreaticoduodenectomy (Whipple Procedure)*. RACS.

Royal Australasian College of Surgeons and Medibank (2016). *Surgical Variance Report: Orthopaedic procedures*.

Scalia et al (2019). Scalia, P., Durand, M.-A., Berkowitz, J. L., Ramesh, N. P., Faber, M. J., Kremer, J. A. M. and Elwyn, G. “The impact and utility of encounter patient decision aids: Systematic review, meta-analysis and narrative synthesis”. *Patient Education and Counseling* 102.5, pp. 817–841. ISSN: 0738-3991. DOI: https://doi.org/10.1016/j.pec.2018.12.020. http://www.sciencedirect.com/science/article/pii/S0738399118306451.

Scheller-Kreinsen et al (2011). Scheller-Kreinsen, D., Quentin, W. and Busse, R. “DRG-Based Hospital Payment Systems and Technological Innovation in 12 European Countries”. *Value in Health* 14.8, pp. 1166–1172. ISSN: 1098-3015. DOI: 10.1016/j.jval.2011.07.001. http://www.sciencedirect.com/science/article/pii/S1098301511015348.

Schilling et al (2018). Schilling, C., Keating, C., Barker, A., Wilson, S. F. and Petrie, D. “Predictors of inpatient rehabilitation after total knee replacement: an analysis of private hospital claims data”. *Medical Journal of Australia* 209.5, pp. 222–227. ISSN: 0025-729X.

Scott, I. A. and Duckett, S. (2015). “In search of professional consensus in defining and reducing low-value care”. *The Medical Journal of Australia* 203.4, pp. 179–81. ISSN: 0025-729X.

Senate Community Affairs References Committee (2017). *Price regulation associated with the Prostheses List Framework*. The Senate.

Simar, L. and Wilson, P. W. (2007). “Estimation and inference in two-stage, semi-parametric models of production processes”. *Journal of Econometrics* 136.1, pp. 31–64.

Simon, H. A. (1947). *Administrative behavior: A study of decision-making processes in administrative organization*. New York: Macmillan.

Slotkin et al (2017). Slotkin, J. R. et al. “Episode-Based Payment and Direct Employer Purchasing of Healthcare Services: Recent Bundled Payment Innovations and the Geisinger Health System Experience”. *Neurosurgery* 80.4S, S50–S58. ISSN: 0148-396X. DOI: 10.1093/neuros/nyx004. https://doi.org/10.1093/neuros/nyx004.

Sorenson et al (2015). Sorenson, C., Drummond, M., Torbica, A., Callea, G. and Mateus, C. “The role of hospital payments in the adoption of new medical technologies: an international survey of current practice”. *Health Economics, Policy and Law* 10.2, pp. 133–159. ISSN: 1744-1331. DOI: 10.1017/S1744133114000358. https://www.cambridge.org/core/article/role-of-hospital-payments-in-the-adoption-of-new-medical-technologies-an-international-survey-of-current-practice/575DB5D381176414B8648862156E635D.

Stavrunova, O. (2019). “Choice Inconsistencies in the Demand for Private Health Insurance”. *Oxford Research Encyclopedia of Economics and Finance*.

Steinbusch et al (2007). Steinbusch, P. J. M., Oostenbrink, J. B., Zuurbier, J. J. and Schaepkens, F. J. M. “The risk of upcoding in casemix systems: A comparative study”. *Health Policy* 81.2-3, pp. 289–299. ISSN: 0168-8510. http://www.sciencedirect.com/science/article/pii/S0168851006001369.

Sternberg, S. (2015). “Hospitals Move to Limit Low-Volume Surgeries”. *U.S. News* May 19. https://www.usnews.com/news/articles/2015/05/19/hospitals-move-to-limit-low-volume-surgeries.

Sternberg, S. and Dougherty, G. (2015). *Risks Are High at Low-Volume Hospitals*. https://www.usnews.com/news/articles/2015/05/18/risks-are-high-at-low-volume-hospitals.

Sutherland et al (2012). Sutherland, J. M., Hellsten, E. and Yu, K. “Bundles: An opportunity to align incentives for continuing care in Canada?” *Health Policy* 107.2, pp. 209–217. http://www.sciencedirect.com/science/article/pii/S0168851012000346.

Syrowatka et al (2016). Syrowatka, A., Krömker, D., Meguerditchian, A. N. and Tamblyn, R. “Features of Computer-Based Decision Aids: Systematic Review, Thematic Synthesis, and Meta-Analyses”. *Journal of Medical Internet Research* 18.1, e20. ISSN: 1438-8871. DOI: 10.2196/jmir.4982. http://www.jmir.org/2016/1/e20/.

Toy et al (2018). Toy, P. C., Fournier, M. N., Throckmorton, T. W. and Mihalko, W. M. “Low Rates of Adverse Events Following Ambulatory Outpatient Total Hip Arthroplasty at a Free-Standing Surgery Center”. *The Journal of Arthroplasty* 33.1, pp. 46–50. ISSN: 0883-5403. DOI: https://doi.org/10.1016/j.arth.2017.08.026. http://www.sciencedirect.com/science/article/pii/S0883540317307490.

Urbach et al (2005). Urbach, D., Stukel, T., Croxford, R. and MacCallum, N. “Analysis of current research related to the impact of low-volume procedures/surgery and care on outcomes of care”. *Toronto: Canadian Institute for Health Information*.

van Gool et al (2009). van Gool, K., Savage, E., Viney, R., Haas, M. and Anderson, R. “Who’s Getting Caught? An Analysis of the Australian Medicare Safety Net”. *The Australian Economic Review* 42.2, pp. 143–154. ISSN: 0004-9018.

Vlaanderen et al (2019). Vlaanderen, F. P., Tanke, M. A., Bloem, B. R., Faber, M. J., Eijkenaar, F., Schut, F. T. and Jeurissen, P. P. T. “Design and effects of outcome-based payment models in healthcare: a systematic review”. *European Journal of Health Economics* 20.2, pp. 217–232. ISSN: 1618-7601. DOI: 10.1007/s10198-018-0989-8. https://doi.org/10.1007/s10198-018-0989-8.

Ward et al (2015). Ward, P. R., Rokkas, P., Cenko, C., Pulvirenti, M., Dean, N., Carney, S., Brown, P., Calnan, M. and Meyer, S. “A qualitative study of patient (dis)trust in public and private hospitals: the importance of choice and pragmatic acceptance for trust considerations in South Australia”. *BMC Health Services Research* 15.297. ISSN: 1472-6963. DOI: 10.1186/s12913-015-0967-0. https://doi.org/10.1186/s12913-015-0967-0.

Weaver, J. and Magill-Cuerden, J. (2013). “‘Too Posh to Push’: The Rise and Rise of a Catchphrase”. *Birth* 40.4, pp. 264–271. ISSN: 0730-7659. DOI: 10.1111/birt.12069. https://onlinelibrary.wiley.com/doi/abs/10.1111/birt.12069.

Wheelwright, K. (1995). “Commonwealth and state powers in health: a constitutional diagnosis”. *Monash University Law Review* 21.1, pp. 52–83. ISSN: 0311-3140.

Yu et al (2019). Yu, S., van Gool, K., Hall, J. and Fiebig, D. G. “Physician pricing behavior: Evidence from an Australian experiment”. *Journal of Economic Behavior & Organization* 161, pp. 20–34. ISSN: 0167-2681. DOI: https://doi.org/10.1016/j.jebo.2019.03.008. http://www.sciencedirect.com/science/article/pii/S0167268119300794.