

Overview

The *Australian Atlas of Healthcare Variation* series explores the extent to which use of health care in Australia varies depending on where people live, how their care is funded and their level of socioeconomic disadvantage. Where possible, it looks at how use of health care by Aboriginal and Torres Strait Islander people compares with use by other Australians; how health care use in urban regions compares to rural and remote regions of Australia; and how health care use for private hospital procedures compares to health care use for public hospital procedures. It uses maps and graphs of variations in care, derived from information routinely gathered by the health system, to show how use of health care differs according to these factors.

The aim is to prompt further investigation into whether the observed variation reflects a response to differences in people's healthcare needs or in the informed choices they make about their treatment options. Variation for these reasons is desirable and a hallmark of a sophisticated healthcare system. But when variation in the use of health services is due to other factors – such as the provision of patient care that is not supported by evidence, uncertainty about the intervention's place in therapy, or differences in access to care or in appropriateness of care – it is unwarranted variation and represents an opportunity for the health system to improve.

Overview

Improvements to the health system involve increasing awareness of, and access to, treatment options that produce better outcomes for consumers, and reducing the use of investigations or treatments with little or uncertain benefit. They can take many forms, from policy reform through to a person-centred system that includes patients in shared decision making. Where improvements are imperative and/or there are obvious groups or sectors of the health system to lead them, the Commission makes recommendations.

In this Atlas

This *Fourth Australian Atlas of Healthcare Variation* (the Atlas) examines variation in 17 healthcare items according to where consumers live, and it tracks changes over time for nine of these items. Some items were selected for re-examination in this Atlas because there have been interventions that would be expected to affect the rates or patterns of use. In other cases, we have re-examined items that were shown to have less than optimal use in the first analysis, but little has been done to improve patient outcomes.

The interpretation of data in this Atlas, and discussions of what can be done to improve care, have benefited from thorough consultation by the Australian Commission on Safety and Quality in Health Care (the Commission). Clinicians, policy makers, medicines use experts, researchers and consumer representative organisations have helped us identify the likely drivers of variation and the changes that are needed to prevent unwarranted variation. The Commission is grateful for these insights.

This Atlas has been produced in partnership with the Australian Institute of Health and Welfare (AIHW), who have contributed enormous expertise in their analysis and understanding of the data and data sources. Commonwealth, state and territory health departments have also been pivotal partners in providing data, and in working with the Commission to interpret findings and find potential avenues for improvements in healthcare delivery.

What has the Atlas series taught us?

Where we see variation, it must be investigated and explained. Does it reflect differences in consumer needs or preferences, or is it unwarranted? The Atlas data assists us to identify potentially unwarranted variation and reveals signs that suggest healthcare delivery is not optimal:

1. High rates of healthcare interventions that have a risk of harm and uncertain or no benefit, suggesting a need for decisive action
2. High rates of admission for potentially preventable conditions or complications of chronic illness that may be due to a lack of integrated care and variable implementation of evidence-based care
3. Low rates of investigation or treatment in groups with the highest burden of disease, indicating that barriers to appropriate access should be investigated and dealt with
4. Markedly higher rates of interventions, or repeat interventions, in some areas, without an obvious reason, raising concern about the degree of benefit gained, potential harms, and opportunity costs to the health system.

What can we do?

Education and training are important, but not sufficient for reducing unwarranted variation in healthcare delivery. The implementation of shared decision making as routine practice to ensure informed consent, system and regulatory changes, and appropriate distribution of resources, are needed if we are to achieve meaningful change.

The current remuneration system for healthcare providers in Australia rewards quantity rather than quality. We need different and complementary payment approaches that better recognise and support high-quality care. And to underpin such change, we need to improve how we measure appropriateness of care; for example, with greater use of clinical quality registries.

What is appropriate care?

Appropriate care means offering patients care that optimises benefits and minimises harms, and is based on the best available evidence. At a health system level, it also needs to take into account whether the people with the greatest clinical need are getting care.

A lack of evidence contributes to variation in use of some health interventions, such as spinal fusion. Increasing the evidence base must be a priority in these situations by, for example, mandating contributions to a clinical quality registry.

The commentaries in this Atlas present a variety of specific strategies for reducing unwarranted variation in the patient care items examined, as shown in the examples below.

Cease payment for non-medically indicated early planned births

This fourth Atlas includes a report on gestational age at planned caesarean section or induction of labour without a medical or obstetric indication. This follows a report in the third Atlas about gestational age at planned caesarean section without a medical or obstetric indication. Short-term adverse effects from planned caesarean section before 39 weeks' gestation are well-established, and more recent research has suggested concerning long-term developmental effects for children born before 39 weeks, such as poorer educational outcomes.¹⁻⁶ For this reason, the Commission examined the topic in the third Atlas and again in this Atlas, despite data limitations that must be considered when interpreting the findings.

As reported in Chapter 1, in the seven reporting states and territories, 43–56% of the planned caesarean sections performed at less than 39 weeks' gestation, did not have a documented obstetric or medical indication. Despite the likely overestimation in these figures because of data limitations (see 'Important notes about the data...' on page 49), these high estimated rates are a call to action.

Given that the short-term adverse effects from planned caesarean section before 39 weeks' gestation are well-established, and despite multiple clinical policy responses the practice continues, a financial lever is needed in Australia to prevent unnecessary harm from early planned births. This should include ceasing MBS benefits and private insurance payments, as well as changes to state, territory and hospital admission policies, to prevent non-medically indicated planned births before 39 weeks and improve neonatal outcomes.

Integrated care to reduce potentially preventable hospitalisations

Potentially preventable hospitalisations include hospitalisations that may have been prevented by provision of disease-based, evidenced-based practice with appropriate intervention earlier in the disease. More than 330,000 potentially preventable hospitalisations in Australia in 2017–18 were due to the five conditions examined in Chapter 2: chronic obstructive pulmonary disease (COPD), kidney infections and urinary tract infections, heart failure, cellulitis, and diabetes complications.⁷ Substantial variation was observed between the highest and lowest local area rates for each condition: from about 18 times as high for COPD to about six times as high for heart failure.

The high hospitalisation rates and substantial variation reported in this chapter show that recommended care is not always provided for people with chronic conditions. Despite major efforts to coordinate care for people with chronic diseases, fragmented care remains the major contributor to suboptimal outcomes for many patients.

Overview

A fundamental shift of healthcare investment to a better integrated primary care system must be made to improve health outcomes. Critically, health systems also need to become better at applying evidence-based interventions to reduce the progression of chronic disease and improve consumers' quality of life.

Trials of integrated care models have shown that people with advanced chronic diseases are routinely receiving suboptimal care. For example, potentially preventable hospitalisations were reduced by 37% among people with chronic disease who were enrolled in or who had attended the rapid access and stabilisation service in an integrated care model in Western Sydney.⁸ The model focuses on people with type 2 diabetes, COPD, and coronary artery disease or congestive heart failure. The Western Sydney Primary Health Network and Western Sydney Local Health District shared governance of the project. However, the separate funding of hospital and general practice care means only partial integration of care can be achieved.⁸ A single funding system for the health district, incorporating community, primary and hospital care, may achieve the best outcomes for people with chronic conditions.⁸

The Commission is working with the Independent Hospital Pricing Authority to design funding models for reducing potentially preventable hospitalisations, consistent with the long-term health reforms set out in the National Health Reform Agreement Addendum 2020–25.⁹ These reforms will be evidence based and will prioritise consumer outcomes. This work will build on the activities set out in the 2017 Bilateral Agreements on Coordinated Care between the Commonwealth and states and territories.

Audit and review to improve use of spinal fusion

Most people with chronic low back pain related to degenerative disorders do not have nerve-related symptoms. The role of spinal fusion in these circumstances is very limited and controversial.¹⁰ The *Fourth Australian Atlas of Healthcare Variation* found marked differences in rates of lumbar spinal fusion.

In 2015–2018, the rate of hospitalisation for lumbar spinal fusion was 12.4 times as high in the area with the highest rate compared with the area with the lowest rate, raising concern that the procedure is being used outside the guidelines in the areas with higher rates. The substantial variation in rates of lumbar spinal fusion, a procedure recommended in few circumstances, suggests an urgent need for peer review of clinical variation at a local level, as well as high-quality evidence about who may benefit from this surgery and the degree of benefit.

Patients offered spinal fusion surgery for low back pain should be fully informed of the potential benefits and risks for them. They must be given clear information about the likely outcomes, the gaps in evidence and other treatment outcomes so they can give fully informed consent for the procedure.

Health services should include clinical audit as a credentialing requirement for surgeons who perform lumbar spinal surgery. Priority should be given to improving access to services that provide multidisciplinary review and non-surgical treatments for chronic low back pain.

Reducing supply-driven gastroscopy

Chapter 5 examines rates of repeat colonoscopy and repeat gastroscopy within a shorter time frame than recommended in most situations. Rates were higher in major cities compared with remote areas, and in areas of socioeconomic advantage. Given the few good reasons for performing these repeated procedures, and the lack of correlation with prevalence of disease, the findings suggests overuse of the procedures in these areas.

Access to clinicians may influence the likelihood of people seeking care and affect the rates of repeat colonoscopy and repeat gastroscopy. Open access units that do not require consultant assessment of the appropriateness of requests, as well as greater remuneration for providing a service rather than a consultation, may also lead to variation and over-servicing in some areas.

Where supplier-induced demand is found to be a contributor to unwarranted variation, regulatory approaches are needed. For example, limiting provider numbers in some cases could improve appropriateness of care. Relevant clinical craft groups should also provide leadership about best practice to reduce over-servicing.

Informed consent

In all health care, consumers should be informed of the benefits and risks to them, and of appropriate alternatives. This is crucial when the intervention involves uncertain or little benefit. Ensuring women and their partners are informed of the benefits and risks is a powerful strategy for reducing harm from early planned birth without a medical or obstetric indication.

Giving young adults with gastroesophageal reflux symptoms information about the natural course of the disease, and how lifestyle modifications can help, will reduce inappropriate referral for gastroscopy (see Chapter 5). Improved consumer awareness of the appropriate timing of proton pump inhibitor dosing will also improve the effectiveness of treatment and reduce the need for higher doses or long-term use. Tools such as the AIHW cancer summary data tool¹¹ can support data-driven discussions with consumers on the rates of cancer in various age groups. Discussing the very low rate of gastroesophageal cancer in younger adults may reduce inappropriate requests for gastroscopy and repeat gastroscopy in this group (see Chapter 5).

Supporting self-management

Consultations for procedures such as colonoscopy are an opportunity to arm the consumer with strategies to reduce their subsequent risk – for example, by reducing the lifestyle-related risk factors for bowel cancer. At a population level, the frequency of bowel cancer could be significantly reduced with successful modification of the key population-attributable risks – that is, addressing diet (21.8%), physical inactivity (16.5%), excess weight (12.5%), smoking (7.4%) and alcohol use (5.5%).¹²

In chronic illness, self-management has a major bearing on the prevention of complications. It is the patients themselves who need to take their diabetes medications every day, quit smoking or do the exercises to manage their back pain. Educating people with chronic illness about self-management, and supporting them to be active and effective partners in their health care, has the potential to greatly improve health outcomes.

Overview

Improving equity in health care

A concerning pattern of inequity has emerged from all four Atlases. For example, the much higher rates of otitis media in Aboriginal and Torres Strait Islander children than in other Australian children are not matched by appropriately higher rates of myringotomy (see Chapter 3).

Conversely, where the patterns in the Atlas do follow known differences in the burden of disease, they highlight the need to improve prevention of chronic disease by addressing risk factors, and the need to improve prevention of serious complications in people who have developed disease. People living in areas of socioeconomic disadvantage have higher rates of chronic conditions such as diabetes, heart disease and chronic COPD.¹³ The Atlas series has made many recommendations for improving health care for underserved groups with specific conditions, but models of care and prevention need to better target health inequities in a systematic way.

A lack of community-based health services and long distances to travel contribute to the high hospitalisation rates for patients from remote and some regional areas. Anecdotally, a greater availability of beds in some small rural hospitals may also lead to a lower threshold for admitting patients. Services must be redesigned to increase the availability of health care close to home for people living in non-metropolitan areas.

Socioeconomic disadvantage may contribute to hospitalisations through a variety of mediators, such as greater disease severity, multiple comorbidities and poor health literacy.¹⁴ Long-term strategies are needed to address the social determinants of health. Complex social determinants also underlie the disparities in health between Aboriginal and Torres Strait Islander people and other Australians.^{15,16} To reduce health inequities, improvements in social factors are required – for example, in education, employment and living conditions.¹⁵

Misalignment of mainstream health services with Aboriginal and Torres Strait Islander culture is a barrier to accessing health care.¹⁷ Increasing access

to culturally safe health care will involve continuing to develop partnerships with the Aboriginal Community Controlled Health Service sector, increasing the Aboriginal and Torres Strait Islander health workforce, and improving cultural awareness and competency of mainstream health services.

Following evidence-based practice

For many of the conditions discussed in this Atlas, we have evidence of what works to improve outcomes for consumers, and we have evidence-based best practice spelt out in guidelines. Despite having this information available, the implementation is lacking – this constitutes inappropriate care.

For example, results of a recent Australian study found only 13% of heart failure patients received excellent care according to guidelines.¹⁸ Another Australian study also showed shortfalls in rates of prescribing recommended medicines for patients admitted to hospital for heart failure.¹⁹ Pulmonary rehabilitation is another example – it can reduce COPD-related hospitalisations by 36–56%^{20,21} and is recommended by guidelines.²² However, estimates of the use of pulmonary rehabilitation have ranged from less than 5% to 10% of people in Australia with COPD.²³ In each example, multiple factors contribute to the problem, and multi-pronged approaches are needed to support best practice.


More effective prevention strategies

The need for many of the interventions analysed in the Atlas could be reduced by better prevention. For example, addressing lifestyle-related risk factors such as obesity and smoking could prevent a considerable proportion of chronic diseases and bowel cancers.¹³ A substantial reduction in risk factors could deliver significant benefits in terms of reduced burden of disease, as well as reduced expenditure on investigations and treatment for these diseases. Reducing unnecessary healthcare interventions has several further benefits, including reducing the associated carbon emissions, which will in turn benefit health at a societal level.

Conclusion

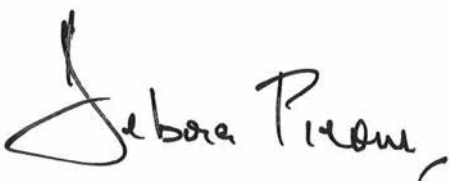
The Atlas series has highlighted many challenges and inequities in health care. It has also suggested reasons for variation, as well as realistic and specific recommendations for change. And it has shown how analysis and presentation of routinely collected data can promote action by organisations and clinical groups to investigate and improve appropriateness of care and the value Australians receive from their healthcare system. Many case studies in the Atlas show how innovative solutions, such as integrated care for people with chronic conditions, can improve health outcomes. Implementing successful interventions on a larger scale requires effective diffusion mechanisms, as well as funding reform.²⁴

The maps and commentary in the four *Australian Atlases of Healthcare Variation* reveal many opportunities to deliver better health care in this country, by investigating and addressing both underuse and overuse of services, and by implementing targeted strategies to prevent chronic disease. Providing education and training is important, but not enough. We must make major system changes at all levels to achieve real progress.



Conjoint Professor Anne Duggan
Clinical Director

28 April 2021



Adjunct Professor Debora Picone AO
Chief Executive Officer

28 April 2021

Why measure variation in healthcare use?

Getting the best outcomes for patients and reducing harm is the goal of the Atlas. Where we see substantial variation in use of a particular treatment, it is an alarm bell that should make us stop and investigate whether appropriate care is being delivered.

Variation in itself is not necessarily bad, and it can be good if it reflects health services responding to differences in patient preferences or underlying needs. When a difference in the use of health services does not reflect these factors, it is unwanted variation and represents an opportunity for the health system to improve.

Rates of an intervention that are substantially higher or lower in some areas can highlight:

- Clinical practice that is not supported by evidence-based guidelines
- Inequity of access to evidence-based care, and the need to deliver services more fairly
- Uncertainty about the intervention's place in therapy, and the need for better data on its benefits and harms
- Gaps in evidence accessible to clinicians, and the need for clinical care standards
- Inadequate system supports for appropriate care, and the need for changes in training or financial incentives.

Looking at how healthcare use varies between people living in different areas, between people with and without socioeconomic disadvantage, and between Aboriginal and Torres Strait Islander people and other Australians can show who in our community is missing out. Fundamental changes to address the underlying determinants of ill health, as well as better service delivery for those with existing disease, are needed where these inequities are found.

Overview

Responses to the Atlas series

The overall goal of the Atlas series is to improve the appropriateness of care. At a local level, the data can be used to make judgements and drive improvement in health care. At a national level, the Commission publishes recommendations for action using levers across the entire health system to effect change. Some of the most powerful levers recommended in the Atlas series have been aligning payments for health care with best-practice guidelines, developing clinical care standards, and incorporating the examination of healthcare variation into the National Safety and Quality Health Service Standards.

The Atlas series has prompted action across the health system to address variation in healthcare. Case studies highlighting responses to the Atlas reports on knee arthroscopy and psychotropic medicines are shown below. More example initiatives are described in the third Atlas, Chapter 6.

Case study: knee arthroscopy

Knee arthroscopy is a surgical procedure for examining the inside of the knee joint and, if necessary, repairing it. Arthroscopic procedures are not effective for treating knee osteoarthritis.²⁵ In older patients with knee pain caused by osteoarthritis or degenerative meniscal changes, arthroscopic procedures provide only minor pain relief, which is offset by an increased risk of harm.²⁶ In 2015, the first Atlas reported that there were more than 33,000 hospitalisations for knee arthroscopy in people aged 55 years and over in Australia in 2012–13.²⁸ The rate of hospitalisation was seven times higher in the area with the highest rate compared with the area with the lowest rate.²⁸

The Commission released the Osteoarthritis of the Knee Clinical Care Standard in light of the variation reported in the first Atlas and referred the findings to the MBS Review Taskforce, which subsequently recommended removal of funding for knee arthroscopy for degenerative changes.²⁸ The rate of knee arthroscopy in people over 55 years of age in Australia fell by 40% from 2015 to 2019.²⁹ Many drivers are likely to have contributed to this reduction, in addition to the Atlas.

Case study: state response to high rates of psychotropic medicine use

The first Atlas showed that several areas of Tasmania were among the highest users in Australia of anxiety and depression medicines.²⁷ Differences in rates of anxiety and depression in the population did not account for these high rates. Primary Health Tasmania undertook a comprehensive needs assessment to gain a deeper understanding of the Atlas findings, and to see how optimal treatment of anxiety and depression could best be supported.

Primary Health Tasmania, together with the Tasmanian Health Service and the Department of Health and Human Services, took a multi-pronged approach to improving the quality of clinical care. Quality improvement initiatives included auditing practice data, conversations with clinicians in target areas, providing peer support to improve practice, developing deprescribing resources and training clinicians in their use, and developing Tasmanian Health Pathways for mental health. The team assessed the availability of mental health services in different areas of Tasmania, and improved access where gaps were found. The team improved access to face-to-face social work and psychology supports, promoted consumer self-management tools for depression and anxiety, and increased the use of GP Mental Health Treatment Plans.

References

1. Dong Y, Chen SJ, Yu JL. A systematic review and meta-analysis of long-term development of early term infants. *Neonatology* 2012;102(3):212–221.
2. Searle AK, Smithers LG, Chittleborough CR, Gregory TA, Lynch JW. Gestational age and school achievement: a population study. *Arch Dis Child Fetal Neonatal Ed* 2017 Sep;102(5):F409–16.
3. Bentley JP, Roberts CL, Bowen JR, Martin AJ, Morris JM, Nassar N. Planned birth before 39 weeks and child development: a population-based study. *Pediatrics* 2016 Dec;138(6):e20162002.
4. Murray SR, Shenkin SD, McIntosh K, Lim J, Grove B, Pell JP, et al. Long term cognitive outcomes of early term (37–38 weeks) and late preterm (34–36 weeks) births: a systematic review. *Wellcome Open Res* 2017;2:101.
5. Noble KG, Fifer WP, Rauh VA, Nomura Y, Andrews HF. Academic achievement varies with gestational age among children born at term. *Pediatrics* 2012 Aug;130(2):e257–64.
6. MacKay DF, Smith GC, Dobbie R, Pell JP. Gestational age at delivery and special educational need: retrospective cohort study of 407,503 schoolchildren. *PLoS Med* 2010 Jun 8;7(6):e1000289.
7. Australian Institute of Health and Welfare. Potentially preventable hospitalisations in Australia by age groups. Canberra: AIHW; 2019.
8. Cheung NW, Crampton M, Nesire V, Hng TM, Chow CK, Western Sydney Integrated Care Program I. Model for integrated care for chronic disease in the Australian context: Western Sydney Integrated Care Program. *Aust Health Rev* 2019 Oct;43(5):565–71.
9. National Cabinet. Schedule J - Addendum to the National Health Reform Agreement: revised public hospital funding and health reform arrangements. Canberra. Council on Federal Financial Relations; 2020. Available from: [federalfinancialrelations.gov.au/content/national_health_reform.aspx](https://www.federalfinancialrelations.gov.au/content/national_health_reform.aspx)
10. Chou R. Subacute and chronic low back pain: surgical treatment. In: Atlas SJ, editor. *UpToDate*. Waltham, MA: UpToDate; 2020.
11. Australian Institute of Health and Welfare. Cancer summary data visualisation [Internet]. Canberra: AIHW; 2020 [accessed Feb 3 2020]. Available from: aihw.gov.au/reports/cancer/cancer-data-in-australia/contents/cancer-summary-data-visualisation
12. Australian Institute of Health and Welfare. National Bowel Cancer Screening Program: monitoring report 2020 [Internet]. Canberra: Australian Government Department of Health; 2020. (AIHW Cat No. CAN 133.) [accessed Aug 2020]. Available from: aihw.gov.au/reports/cancer-screening/national-bowel-cancer-screening-monitoring-2020/contents/summary
13. Australian Institute of Health and Welfare. Australia's health 2018. Canberra: AIHW; 2018.
14. Roos LL, Walld R, Uhanova J, Bond R. Physician visits, hospitalizations, and socioeconomic status: ambulatory care sensitive conditions in a Canadian setting. *Health Serv Res* 2005 Aug;40(4):1167–85.
15. Gracey M. Why closing the Aboriginal health gap is so elusive. *Intern Med J* 2014;44(11):1141–3.
16. Jayakody A, Oldmeadow C, Carey M, Bryant J, Evans T, Ella S, et al. Frequent avoidable admissions amongst Aboriginal and non-Aboriginal people with chronic conditions in New South Wales, Australia: a historical cohort study. *BMC Health Serv Res* 2020;20(1):1082.
17. National Aboriginal and Torres Strait Islander Health Standing Committee of the Australian Health Ministers' Advisory Council. Cultural respect framework 2016–2026 for Aboriginal and Torres Strait Islander health. Canberra: AHMAC; 2016.
18. Driscoll A, Dinh D, Wong J, Hopper I, Mariani J, Zimmet H, et al. Impact of individual patient profiles on adherence to guideline directed medical therapy in heart failure with reduced ejection fraction: VCOR-HF study. *Heart Lung Circ*; 2020;29(12):1782–9.
19. Newton PJ, Davidson PM, Reid CM, Krum H, Hayward C, Sibbritt DW, et al. Acute heart failure admissions in New South Wales and the Australian Capital Territory: the NSW HF Snapshot Study. *Med J Aust* 2016;204(3):113.e111–8.
20. Moore E, Palmer T, Newson R, Majeed A, Quint JK, Soljak MA. Pulmonary rehabilitation as a mechanism to reduce hospitalizations for acute exacerbations of COPD: a systematic review and meta-analysis. *Chest* 2016;150(4):837–59.
21. Puhan MA, Gimeno-Santos E, Cates CJ, Troosters T. Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease. *Cochrane Database Syst Rev* 2016 Dec 8;12(12):CD005305.
22. Yang I, Brown J, George J, Jenkins S, McDonald C, McDonald V, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease. Lung Foundation Australia, Thoracic Society of Australia and New Zealand; 2020.
23. NSW Agency for Clinical Innovation. Improved management of patients with severe chronic respiratory disease & severe chronic cardiac disease in the community. Sydney: NSW Department of Health; 2010.
24. Productivity Commission. Innovations in care for chronic health conditions: productivity reform case study. Canberra: Productivity Commission; 2021.
25. National Institute for Health and Care Excellence. Osteoarthritis: care and management in adults. London: NICE; 2014.
26. Thorlund JB, Juhl CB, Roos EM, Lohmander LS. Arthroscopic surgery for degenerative knee: systematic review and meta-analysis of benefits and harms. *BMJ*. 2015;350:h2747.
27. Australian Commission on Safety and Quality in Health Care. Australian atlas of healthcare variation. Sydney: ACSQHC; 2015.
28. Australian Commission on Safety and Quality in Health Care. Osteoarthritis of the Knee Clinical Care Standard. Sydney: ACSQHC; 2017.
29. Australian Government Department of Human Services. Medicare Items 49566, 49563, 49561, 49560, 49559, 49558, 49557 processed from January 2012 to December 2017, per capita [Internet]. Canberra: Medicare Australia; 2018 [accessed Feb 2020]. Available from: medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp

