

Overview

Mapping variation is an invaluable tool for understanding how our healthcare system is providing care, but gathering the data is only the first step. Understanding the underlying reasons for marked differences in the use of some health services across Australia, and considering how we can improve, are key for translating this work into better outcomes for patients.

Sometimes variation is expected, and even a good thing – for instance, when it reflects a response to differences in patient needs or choice of treatment options. When a difference in the use of health services does not reflect these factors, it is unwarranted variation and represents an opportunity for the health system to improve. This improvement may involve increasing access to treatment options that produce better outcomes for patients, or reducing treatment with little or uncertain benefit.

This *Second Australian Atlas of Healthcare Variation* examines variation in 18 clinical items. It paints a picture of variation in the use of a number of interventions not covered in the first Atlas, such as hospitalisations for appendicectomy and caesarean section in younger women. Some interventions are investigated in this Atlas to build on the findings from the first Atlas – for example, examining hysterectomy and endometrial ablation separately, and examining rates of cataract surgery using a more comprehensive dataset.

The Australian Commission on Safety and Quality in Health Care (the Commission) has consulted widely to interpret the data in the second Atlas. Clinicians, policymakers, epidemiologists, researchers and consumers have helped us identify the likely drivers of variation for each type of hospitalisation examined and, most importantly, what needs to be done to improve care. The Atlas contains a number of clear recommendations based on the best available evidence. We have aimed not simply to identify an issue, but to identify specific and achievable paths for improvement and further exploration.

What are the reasons for variation?

System factors that favour particular treatment options may explain variation in use of some procedures. For example, higher rates of hysterectomy in some areas of Australia and a higher rate in Australia than in other comparable countries could be due in part to lower uptake of less invasive alternatives, such as the levonorgestrel intrauterine system and endometrial ablation to manage heavy menstrual bleeding. Awareness and availability of less invasive treatments could see more women deciding to receive more conservative evidence-based treatments as an alternative to hysterectomy.

Variation can also stem from ‘indication creep’, where the use of a procedure or treatment grows beyond the original patient group in which it was trialled and shown to be valuable. A lack of evidence in this new patient group can then lead to clinicians having widely different beliefs about which patients are most likely to benefit from the procedure. For example, lumbar spinal fusion was initially used to treat spinal deformities and fractures, but the use of this operation has extended; it is now also used in some instances when people have symptoms arising from degenerative disease. The variation in use now may reflect differences in clinician opinions on the efficacy of the procedure in this newer patient group.

For other items in the Atlas, the major contributors to variation are clear, although the specific factors may differ between areas. Higher rates of hospitalisation for conditions such as chronic obstructive pulmonary disease (COPD) and diabetes can be explained partly by higher rates of the conditions in some areas of Australia. Differences in the implementation of integrated care, which can help prevent people with chronic diseases deteriorating, are also likely to contribute to the variation in hospitalisations for these conditions. Some hospitalisations for chronic diseases are inevitable. However, the magnitude of the difference between areas of Australia and the sheer number of patients hospitalised highlight the need to do better – in both preventing the underlying conditions and enabling people with chronic diseases to stay as well as they can be.

The patterns in the Atlas also tell a story about inequity. Three often overlapping groups had higher rates of hospitalisations for the chronic diseases examined: people living in remote areas, people living in areas of socioeconomic disadvantage, and Aboriginal and Torres Strait Islander Australians. A whole-of-health-sector approach, and indeed a whole-of-government approach, is needed to make changes that ensure that all Australians have an equal chance for good health.

Where to from here?

More effective models of care

Suboptimal health care in the community can contribute to conditions worsening to the point where hospitalisation is necessary. For example, if diabetes is not well managed, patients risk developing diabetic foot disease. In the most severe cases, this can lead to hospitalisation and amputation of the affected toes, foot or lower leg.

A fundamental component of system changes to reduce these potentially preventable hospitalisations must be a shift to a better integrated primary care system, with a stronger role in coordinating care.¹ Critically, health systems also need to better support patients with chronic disease to reduce the progression of conditions such as COPD, diabetes and heart failure, to minimise disability and improve patients’ quality of life.

The implementation of a Health Care Home model, currently being trialled by the Australian Government Department of Health, could greatly improve appropriateness and coordination of care for patients with multiple chronic and complex conditions.¹ The Health Care Home model supports integrated and coordinated team care, and targets the most intensive health services to those with the greatest needs.² The model allows better sharing of information between patients and members of the healthcare team using My Health Record. Evidence-based planning tools created for Health Care Homes further support high-quality care. Trials of similar models in the United States have shown reductions in hospitalisations, as well as reduced costs.³

Overview

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 unwarranted 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:

- 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 accessible evidence for 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 Australians 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.

What is appropriate care?

Appropriate care means offering patients care that optimises benefits and minimises harms, and is based on the best available evidence.

In the management of specific conditions, we can learn from examples of things going right – the Atlas contains many such positive stories, where clinical teams are leading the delivery of best achievable care. For example, an Australian multidisciplinary, integrated primary and secondary care diabetes service in Brisbane has approximately halved the rate of hospitalisations due to diabetes complications.⁴ The success of this model is particularly encouraging given that the patients had complex type 2 diabetes and were from socioeconomically disadvantaged areas.

Making health care truly accessible for Aboriginal and Torres Strait Islander Australians

Much higher rates of the potentially preventable hospitalisations examined in the Atlas among Aboriginal and Torres Strait Islander Australians compared with other Australians point to poor access to appropriate care in the community, as well as a higher burden of the factors causing chronic diseases, such as social disadvantage, smoking and obesity. Conversely, for some procedures, such as cataract surgery, the substantially lower rates of treatment despite a higher prevalence of poor sight due to cataract indicate inadequate service delivery, which is not tailored to the population's needs.

For Aboriginal and Torres Strait Islander Australians, availability of health services in urban and regional centres does not necessarily equate to accessibility.⁵ Services need to be not only affordable and physically accessible, but also culturally safe. For Aboriginal and Torres Strait Islander Australians living in remote areas, physical distances compound the challenges to accessing culturally safe health care.

The National Safety and Quality Health Service (NSQHS) Standards, developed by the Commission, provide a nationally consistent statement about the level of care consumers can expect from health service organisations. Accreditation to the NSQHS Standards is mandatory for all hospitals and day procedure facilities. The NSQHS Standards (second edition) include a number of actions that focus specifically on providing care for Aboriginal and Torres Strait Islander Australians. These include strategies to improve the cultural competency and cultural awareness of the health workforce to meet the needs of Aboriginal and Torres Strait Islander patients, and health services working in partnership with Aboriginal and Torres Strait Islander Australians from local communities to meet their healthcare needs. Aboriginal and Torres Strait Islander staff are key to engaging with Aboriginal and Torres Strait Islander patients, and a sufficient number of trained Aboriginal and Torres Strait Islander health workers is essential for service success.

Several innovative models of care have reduced hospitalisations and improved health outcomes among Aboriginal and Torres Strait Islander Australians. For example, a model of out-of-hospital health care has produced encouraging reductions in hospitalisations among Aboriginal and Torres Strait Islander children in both urban and remote areas of Western Australia. The program is based on nurse-led coordination of care, and partnerships with Aboriginal Community Controlled Health Services, general practitioners, allied health professionals, specialist doctors and other community health workers.⁶ Significant decreases in hospitalisations and emergency department presentations, and improved attendance at out-of-hospital appointments were seen during the four-year evaluation of the program.

Outreach services are also showing promise. For example, a home-based outreach case management program that provides holistic, multidisciplinary care for Aboriginal and Torres Strait Islander Australians with diabetes has achieved significant improvements in blood pressure and diabetes control.⁷

Preventing chronic conditions

Smoking is a contributor to many of the chronic conditions examined in the Atlas. The smoking rate among Aboriginal and Torres Strait Islander Australians was 41% in 2014–15, more than twice the rate among non-Indigenous Australians.⁸ Addressing smoking, particularly among Aboriginal and Torres Strait Islander Australians, people at socioeconomic disadvantage and people living in remote areas, could help reduce the disparity in potentially preventable hospitalisations seen in these groups and the hospitalisation rate for smoking-related conditions overall.⁹

Supporting healthy eating and physical activity through prevention programs and supportive environments also has great potential to prevent obesity and reduce rates of many conditions highlighted in the Atlas, particularly type 2 diabetes and coronary heart disease. Reducing rates of obesity would also have a substantial impact on the prevalence of osteoarthritis of the knee and the demand for knee replacement.

Greater use of health technology

Technology is part of the solution for improving access to health care in remote areas. Telehealth is being used effectively in some parts of Australia.¹⁰ However, this technology has the potential for much wider use to improve access to health care in regional and remote areas. For example, a trial of telephone support for people with heart failure in rural and regional areas has shown a 30% reduction in rates of death or hospitalisation compared with usual care.¹¹

Patients as active partners in their care

So much in health is about self-care. The huge potential for lifelong good health depends on individual understanding of the importance of good food, a healthy weight and regular exercise. People also need to be able – and motivated – to eat well and exercise. When illness occurs, 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.

Overview

Supporting patients to be active and effective partners in their health care has the potential to greatly improve health outcomes.^{12,13}

Addressing health literacy is vital to ensure that patients understand health information and have the confidence to act on it. Improving health literacy and the quality of health information will also help patients evaluate treatment options through understanding their risks and likely benefits. This is particularly important for procedures with uncertain benefits and risks of long-lasting consequences.

Better use of data

Collecting data through clinical quality registries on symptoms before treatment and clinical outcomes, including patient-reported outcomes, will fill gaps in knowledge where the evidence on benefits is unclear. This is particularly important for new surgical techniques and devices, and use of established procedures in new patient groups that are likely to have a major impact on patient outcomes or health system use.


One of the issues with health data collection in Australia and elsewhere is that information about the health care that patients receive is split across multiple collections, such as hospital statistics, Medicare Benefits Schedule and Pharmaceutical Benefits Scheme datasets. It is difficult to form an accurate picture of healthcare quality without tracking experiences across these data divides, but this has proved difficult. Linking data from different

sources can let us drill down more deeply into the patterns of healthcare use, and gives a more detailed picture of the investigation and treatment of health problems. For example, linked data could show whether someone who has a heart attack in a regional area of Australia has the same chance of having the recommended investigations and treatment as someone in the city. The data could also show whether, following a heart attack, people have equal access to good secondary preventive care, regardless of where they live. Better access to linked data in the future will allow this kind of detailed analysis on a national scale.

Data are also a tool for health services to examine their practice at a local level. The data in the Atlas allow comparison of rates of particular interventions in local areas, and should prompt reflection on the underlying reasons where large variation is found.

Conclusion

The patterns shown in the maps in this Atlas and the accompanying commentaries show that there are many opportunities for making meaningful changes in Australia's delivery of health care. Our recommendations highlight that action is needed at all levels – from addressing the social determinants of health through to better data collection, system changes and providing the best supports for individual clinician–patient interactions.



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