HEALTH ECONOMICS AND FINANCING | PERSPECTIVE
https://doi.org/10.1071/AH23048
Australian Health Review

Supply and demand – a health economic perspective on the Australian hospital and elective surgery crisis

Jeffrey C. L. Looi[A,B,*] (*DMedSc, MD, MBBS, FRANZCP, AFRACMA, Associate Professor of Neuropsychiatry, Old Age Psychiatry and Psychiatry*), Stephen Allison[B,C] (*MBBS, FRANZCP, Associate Professor of Psychiatry*), Tarun Bastiampillai[B,C,D] (*MBBS, BMedSc, FRANZCP, Professor of Psychiatry*), Stephen R. Kisely[B,E,F] (*DMedRes, PhD, MD, FRANZCP, FAFPHM, FAChAM, Professor of Psychiatry*) and Stephen J. Robson[G] (*PhD, MD, MBBS, FRANZCOG, Professor of Obstetrics and Gynaecology*)

For full list of author affiliations and declarations see end of paper

***Correspondence to:**
Jeffrey C. L. Looi
Academic Unit of Psychiatry and Addiction Medicine, The Australian National University School of Medicine and Psychology, Canberra Hospital, Building 4, Level 2, PO Box 11, Garran, Canberra, ACT 2605, Australia
Email: jeffrey.looi@anu.edu.au

Received: 16 March 2023
Accepted: 5 June 2023
Published: 21 June 2023

Cite this:
Looi JCL *et al.* (2023)
Australian Health Review
47(4), 391–393. doi:10.1071/AH23048

ABSTRACT

The COVID-19 pandemic has contributed to longstanding structural shortfalls in the supply of healthcare services in high-income countries, including Australia. These impacts are reflected in Australian public hospital key performance indicators for acute care, elective surgery and hospital exit block. The challenges occur in the context of increased demand following the suspension of a range of healthcare services during the pandemic. The main supply challenge is suitable numbers of skilled healthcare workers. Rebalancing of supply and demand in healthcare is challenging, but needs to be achieved.

Keywords: access block, COVID-19, exit block, health economics, healthcare demand, healthcare services, healthcare supply, healthcare workforce.

In 2022, COVID-19 was the third highest cause of mortality in Australia, about 12 times greater than the annual road toll.[1,2] Simultaneously, Australian life expectancy estimates fell for the first time since WW1 due to COVID-19, and COVID-19-related excess deaths from dementia, diabetes, ischaemic heart disease, cerebrovascular disease contributed to an extraordinary 16% increase in mortality.[3] Beyond loss of life, waves of COVID-19 related morbidity are affecting healthcare workers and the sustainability of Australian health services.

Despite these figures, COVID-19 seems no longer a focus of political and media attention, and policy at all levels appears to be increasingly disconnected from the experience of frontline healthcare workers affected by fear of COVID-19 exposure, psychological stress, and adverse working conditions.[4] The current Commonwealth National Medical Workforce Strategy was developed[5] before the pandemic, and therefore does not consider pandemic-emergent drivers such as decreased GP accessibility, increased healthcare worker departures, fragmentation of healthcare, and competing workforce demands upon the aged care and disability sector.

The COVID-19 pandemic has contributed to longstanding structural shortfalls in the supply of healthcare services high-income countries, including Australia.[6–8] Relevant indicators of this shortfall include the UK NHS waiting list,[9] and German ICU capacity.[6] These shortfalls are also reflected in current Australian public hospital key performance indicators for acute care,[7] and for elective surgery.[10] The supply challenges occur in the context of increased demand following the suspension of a range of healthcare services, and especially elective surgery, during the pandemic.[11] Rebalancing of supply and demand in healthcare is a challenge that must be met.

The demand side has been documented by the Australian Medical Association (AMA) in recent analyses of public hospital performance[7] and elective surgery metrics[10] from the Australian Institute of Health and Welfare.[12] These analyses revealed a significant decline in time-performance metrics compared to previous analyses, with, for example, only three public hospitals in Australia performing to standard, compared to 15 in

2020–21.[11,13] The rest of the public hospitals in Australia were below standard on delivering urgent care,[7] and elective surgery within specified timeframes, with a 17.8% decrease in elective surgery access compared to 2018–19 before the pandemic.[10]

There is also a demand side problem of exit block, where public hospital bed capacity is constrained by shortfalls in the ability to return patients to home or supported care from Aged Care and Disability services.[8] These sectors face ongoing worker shortages, especially Aged Care which requires skilled staff, while overall worker shortages have affected the Disability sector, as seen in the UK and Australia.[14,15]

Australia also faces healthcare workforce supply challenges in primary care that have arisen from a reimbursement system through Medicare that may be less suited to the present century.[11,16] The resulting shortfalls of GP and allied health primary care service accessibility likely increased demand for acute hospital services.[11]

These shortfalls have been exacerbated by the departure of healthcare workers who have borne over three years of pandemic-exacerbated healthcare supply and demand challenges.[11,17–19] Burgeoning evidence of increased burnout and decreased work-life satisfaction underline some of the potential drivers of physician and other healthcare worker exits from healthcare.[20] A recent systematic review of 43 international studies of turnover intentions found that fear of COVID-19 exposure, psychological stress, adverse working conditions, lack of organisational support, and sociodemographic characteristics were factors in intention to turnover.[4] This study stated: 'Globally, the health workforce has long suffered from labour shortages,' and 'The COVID-19 pandemic has caused an unprecedented wave of resignations,' citing research from the USA and Singapore.[4] Furthermore, in related non-acute healthcare sectors, such as aged care and disability support services, there is a projected shortfall of over 200 000 healthcare workers by 2049–50 in Australia, who also need to be sourced from the same worker pool as for public hospitals.[15]

Policy responses to the healthcare crisis, both in Australia and globally, are likely to include measures aiming to deal with the demand side including so-called urgent care centres,[21] expansion of options for telehealth, commissioning new physical infrastructure, and expanding scope of practice for non-medical health professionals. These will be insufficient on their own.[11] All of these options require healthcare workers. For this reason, they will fail without parallel attention to the supply side requirement of a healthcare workforce.

In order to address this issue, there is a serious requirement for significantly improved nationwide and regional analysis of workforce supply and demand shortages in hospitals, aged care, disability sector, community sector and primary care. In addition, there is also a need for better analysis of demand related healthcare variables, particularly factoring in recent changes related to COVID and issues specifically related to 'exit block'. In order to conduct this important analysis we need to nationally standardise and record our measurement of 'exit block' within all our hospital networks.[8] The private healthcare sector has a yet unrealised role in addressing problems of access block, exit block and workforce if the capacity in the sector can be harnessed in innovative partnerships as in the pandemic.[22]

The tragedy of the global commons[23] is that all nations are now competing for a short supply of healthcare workers. We recommend a greater focus on the supply side of the medical and healthcare workforce, which, in turn should positively affect the supply of healthcare. Recruitment and retention of healthcare workers is therefore essential, although challenging to surmount. However, change is possible: this must involve directly and urgently addressing current drivers of turnover, as noted above.[4] Globally, populations have joined with their healthcare workers to combat the pandemic thus far. Governments must respond to an increasing population demand for healthcare: there is an urgent need to pivot policy and practice towards maintaining a sustainable supply of healthcare workers, especially in Australia, without having to necessarily rely on workforce supply from countries, which may have more dire shortages. Otherwise, there may be an ongoing healthcare supply shortfall in the context of increased demand – hastening Keynes's wry observation: 'In the long run, we are all dead.'

Ethics and consent

No ethics approval or consent was required as this paper does not involve research with humans or animals.

References

1 ABS. COVID-19 Mortality by wave. Canberra, ACT, Australia: Australian Bureau of Statistics; 2023. Available at https://www.abs.gov.au/articles/covid-19-mortality-wave [12 June 2023]

2 DITRDCA. Road Trauma Australia—Annual Summaries. Canberra, ACT, Australia: Department of Infrastructure, Transport, Regional Development, Communications and the Arts; 2023. Available at https://www.bitre.gov.au/publications/ongoing/road_deaths_australia_annual_summaries [12 June 2023]

3 COVID-19 Mortality Working Group. COVID-19 Mortality Working Group: Another month of high excess mortality in July 2022. Sydney, NSW, Australia: Actuaries Digital; 2022. Available at https://www.actuaries.digital/2022/11/04/covid-19-mortality-working-group-another-month-of-high-excess-mortality-in-july-2022/ [13 February 2023].

4 Poon Y-SR, Lin YP, Griffiths P, *et al.* A global overview of healthcare workers' turnover intention amid COVID-19 pandemic: a systematic review with future directions. *Hum Resour Health* 2022; 20(1): 70. doi:10.1186/s12960-022-00764-7

5 Department of Health. National Medical Workforce Strategy 2021–2031. Canberra, ACT, Australia: Department of Health; 2022.

6 Anonymous. Why health-care services are in chaos everywhere. London, UK: The Economist; 2023. Available at https://www.economist.com/finance-and-economics/2023/01/15/why-health-care-services-are-in-chaos-everywhere [1 February 2023].

7 AMA. Australian public hospitals in logjam. Canberra, ACT, Australia: AMA; 2023. Available at https://www.ama.com.au/articles/australian-public-hospitals-logjam [1 February 2023].

8 AMA. Hospital exit block: a symptom of a sick system. Canberra, ACT, Australia: AMA; 2023. Available at https://www.ama.com.au/articles/hospital-exit-block-symptom-sick-system [13 February 2023].
9 Abbasi K. Sunak fiddles while the NHS burns. *BMJ* 2023; 380: p68. doi:10.1136/bmj.p68
10 AMA. Addressing the elective surgery backlog. Canberra, ACT, Australia: AMA; 2023. Available at https://www.ama.com.au/articles/addressing-elective-surgery-backlog [1 February 2023].
11 Amiet K, Robinson N. The post-pandemic spiral of our public hospitals. In: Amiet K, editor. The Front [podcast]. Sydney, NSW, Australia: The Australian; 2023. Available at https://www.theaustralian.com.au/nation/the-postpandemic-spiral-of-our-public-hospitals/audio/b7eba0a730de1a45e431efcd28036b52 [7 June 2023]
12 AIHW. My Hospitals. Canberra, ACT, Australia: AIHW; 2023. Available at https://www.aihw.gov.au/reports-data/myhospitals [1 February 2023].
13 AMA. Hospital performance failing as health system crumbles. Canberra, ACT, Australia: AMA; 2023. Available at https://www.ama.com.au/media/hospital-performance-failing-health-system-crumbles [1 February 2023].
14 BMA. BMA warns of social care crisis as current system is 'deeply flawed' and in need of 'urgent reform'. London, UK: BMA; 2022. Available at https://www.bma.org.uk/bma-media-centre/bma-warns-of-social-care-crisis-as-current-system-is-deeply-flawed-and-in-need-of-urgent-reform [13 february 2023].
15 National Skills Commission. Care workforce labour market survey. Canberra, ACT, Australia: National Skills Commission; 2021.
16 AMA. Medicare media ahead of Strengthening Medicare Taskforce report. Canberra, ACT, Australia: AMA; 2023. Available at https://www.ama.com.au/ama-rounds/27-january-2023/articles/medicare-media-ahead-strengthening-medicare-taskforce-report [1 February 2023].
17 Skinner C. Health workforce: not normal, not safe, but it can be fixed. Sydney, NSW, Australia: MJA Insight+; 2022. Available at https://insightplus.mja.com.au/2022/11/health-workforce-not-normal-not-safe-but-it-can-be-fixed/ [10 May 2023].
18 National Skills Commission. 2022 Skills Priority List Key Findings Report. Canberra, ACT, Australia: National Skills Commission; 2022. Available at https://www.nationalskillscommission.gov.au/sites/default/files/2022-10/2022%20SPL%20Key%20Findings%20Report%20-%206%20October%202022_0.pdf [10 May 2023].
19 AAMC. AAMC Report Reinforces Mounting Physician Shortage. Washington, DC, USA: AAMC; 2021. Available at https://www.aamc.org/news-insights/press-releases/aamc-report-reinforces-mounting-physician-shortage [1 February 2023].
20 Shanafelt TD, West CP, Dyrbye LN, *et al.* Changes in Burnout and Satisfaction With Work-Life Integration in Physicians During the First 2 Years of the COVID-19 Pandemic. *Mayo Clin Proc* 2022; 97(12): 2248–58. doi:10.1016/j.mayocp.2022.09.002
21 McFadzean IJ, Edwards M, Davies F, *et al.* Realist analysis of whether emergency departments with primary care services generate 'provider-induced demand'. *BMC Emerg Med* 2022; 22(1): 155. doi:10.1186/s12873-022-00709-2
22 Department of Health. Australian Government partnership with private health sector secures 30,000 hospital beds and 105,000 nurses and staff, to help fight COVID-19 pandemic. Canberra, ACT, Australia: Department of Health; 2020. Available at https://www.health.gov.au/ministers/the-hon-greg-hunt-mp/media/australian-government-partnership-with-private-health-sector-secures-30000-hospital-beds-and-105000-nurses-and-staff-to-help-fight-covid-19-pandemic [10 May 2023].
23 Spiliakos A. Tragedy of the Commons: What It Is and 5 Examples. Boston, MA, USA: Harvard Business School; 2019. Available at https://online.hbs.edu/blog/post/tragedy-of-the-commons-impact-on-sustainability-issues [13 February 2023].

Data availability. Data sharing is not applicable as no new data were generated or analysed during this study.

Conflicts of interest. The authors declare there is no conflict of interest.

Declaration of funding. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author contributions. All authors have satisfied the requirements for authorship: Substantial contributions to the conception or design of the work; or the acquisition, analysis or interpretation of data for the work; and drafting the work or revising it critically for important intellectual content; and final approval of the version to be published; and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Author affiliations

[A]Academic Unit of Psychiatry and Addiction Medicine, The Australian National University School of Medicine and Psychology, Canberra Hospital, Building 4, Level 2, PO Box 11, Garran, Canberra, ACT 2605, Australia.

[B]Consortium of Australian-Academic Psychiatrists for Independent Policy and Research Analysis (CAPIPRA), Canberra, ACT, Australia.

[C]College of Medicine and Public Health, Flinders University, Adelaide, SA, Australia.

[D]Department of Psychiatry, Monash University, Wellington Road, Clayton, Vic., Australia.

[E]School of Medicine, The University of Queensland, Princess Alexandra Hospital, Ipswich Road, Woolloongabba, Brisbane, Qld, Australia.

[F]Departments of Psychiatry, Community Health and Epidemiology, Dalhousie University, Halifax, NS, Canada.

[G]Department of Obstetrics and Gynaecology, The Australian National University School of Medicine and Psychology, Canberra Hospital, Canberra, ACT, Australia.