15 September 2025

Australian Government Productivity Commission

Re: Submission regarding interim report, "Delivering quality care more efficiently"

Dear commission members,

On behalf of researchers at the Centre for Digital Transformation of Health—Australia's only dedicated platform for navigating the complexities of translating digital health innovations into clinical care—I would like to offer the following commentary on the interim report titled, "Delivering quality care more efficiently." Enclosed with this letter are copies of the papers that we have cited as important and germane to the report. Specifically, our comment relates to the following draft recommendation and sub-item:

Draft recommendation 1.1 The Australian Government should pursue greater alignment in quality and safety regulation of the care economy to improve efficiency and outcomes for care users

- ensure a consistent approach to the regulation of artificial intelligence across the aged care, NDIS and veterans' care sectors (within three years)

The report mentions seven types or applications of AI in the care sector: AI scribes, machine learning models applied to imaging for screening/diagnostics, chatbots, wearables, remote patient monitoring, and assistive technologies, and using AI to reduce administrative paperwork burden or improve planning for providers. Ensuring consistent regulation across seven disparate areas of AI across a further three disparate areas of health in three years will be a monumental undertaking. We suggest the following principles should guide the focus for regulation of AI in health care, and have supplied some useful references to aid the commission in producing its final report.

Our recommended principles are as follows:

1. Lowering regulatory barriers to facilitate pilot testing and translational simulation, which will particularly benefit rural and regional health services. Technologies such as AI scribes may represent achievable productivity gains for rural health services.[1]
2. Protection of users' data and disclosure requirements that balance the needs of consumers' ownership of their health data and right to

determine how it is used, with the need to minimize administrative burden. Health consumers are mostly supportive of the use of their data to train and develop AI tools but are concerned with who has access.[2]

3. Assessment of risk from potential biases of AI including risk-prediction models and output from large language models, particularly for vulnerable populations. Known and unknown biases from AI models may exacerbate or perpetuate inequities in health care.[3],[4]
4. Establish a framework for ongoing monitoring of the safety, errors, and "model drift" of AI tools in the care sector. Health care is not static and changes over time, leading to potential for increasing error if models do not adapt. [5],[6]

About the Centre for the Digital Transformation of Health:

The Digital Health Validitron at the University of Melbourne's Centre for Digital Transformation of Health is Australia's only dedicated platform for navigating the complexities of translating digital health innovations into clinical care. Part studio, part specialist academic research group, it brings together digital health expertise, research methodologies, and infrastructure that collectively provide a means to develop, validate, and evaluate digital health innovations.

We hope these resources will help the Australian government balance the needs for equity and safety with reducing excessive paperwork burden on providers in the care sector.

Your sincerely,

[redacted]

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Economist and senior research fellow, Centre for Digital Transformation of Health
University of Melbourne
[redacted]

Enclosed: draft commentary manuscript

Recommended papers:

[1] Metcalf, O., Fossouo Tagne, J., Passey. D., Chapman, W., Cornell, P., Huggins, C.E., Steel, P., Wong Shee, A., Field., M., Gray, L., Graham., K., Blashki, G., & Huckvale, K. AI transformation of rural and regional Australian hospitals: a pragmatic strategy for introducing AI through ambient scribes. *Unpublished commentary under review, manuscript enclosed with this letter.*

[2] Freeman, S., Stewart, J., Kaard, R., Ouliel, E., Goudie, A., Dwivedi, G., & Akhlaghi, H. (2024). Health consumers' ethical concerns towards artificial intelligence in Australian emergency departments. Emerg Med Australas, 36(5), 768-776. https://doi.org/10.1111/1742-6723.14449

[3] Norori N, Hu Q, Aellen FM, Faraci FD, Tzovara A. Addressing bias in big data and AI for health care: A call for open science. Patterns. 2021 Oct 8;2(10).

[4] Zink A, Morriss S, Gangopadhyaya A, Obermeyer Z. Building Equitable Artificial Intelligence in Health Care. Urban Institute. 2023 Sep 28.

[5] Peek, N., Capurro, D., Rozova, V., & van der Veer, S. N. (2024). Bridging the gap: Challenges and strategies for the implementation of artificial intelligence-based clinical decision support systems in clinical practice. Yearb Med Inform, 33(1), 103-114. https://doi.org/10.1055/s-0044-1800729

[6] Rotalinti Y, Tucker A, Lonergan M, Myles P, Branson R. Detecting drift in healthcare AI models based on data availability. InJoint European Conference on Machine Learning and Knowledge Discovery in Databases 2022 Sep 19 (pp. 243-258). Cham: Springer Nature Switzerland.

AI transformation of rural and regional Australian hospitals: a pragmatic strategy for introducing AI through ambient scribes

Metcalf, O., Fossouo Tagne, J., Passey. D., Chapman, W., Cornell, P., Huggins, C.E., Steel, P., Wong Shee, A., Field., M., Gray, L., Graham., K., Blashki, G., & Huckvale, K.

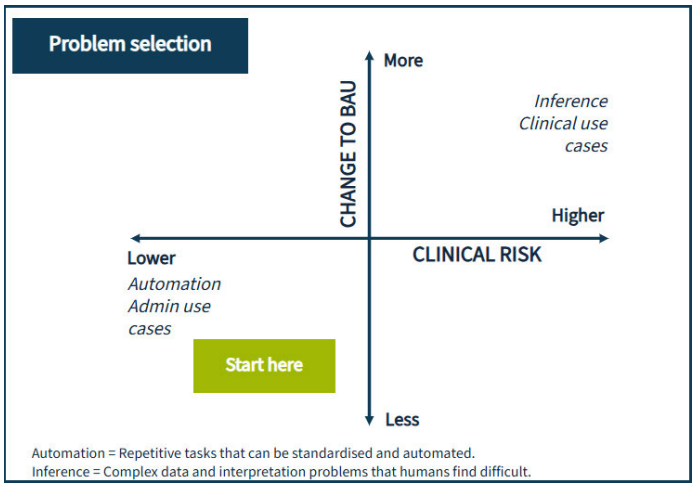
The challenges facing the digital transformation of health are non-trivial, but are even more pronounced in rural and regional areas. Several barriers including poorer digital infrastructure, lower levels of digital literacy, and unique workforce challenges, individually and collectively reduce organisational readiness.[1,2] Artificial intelligence (AI) is a transformational technology for healthcare that has generated significant interest as one solution to the challenges facing rural and regional areas of Australia,[3,4] yet the complexity of clinical AI creates additional barriers to successful implementation. For example, many rural and regional Australian hospitals lack the technological infrastructure, such as electronic medical records (EMRs) or large data storage capacity, that is required to implement AI. The scale of this challenge is evident: in 2025, only 15% of Australian rural and regional hospital beds currently operate with EMR coverage, and one-third of all hospital beds are in rural, regional, or remote areas. While major infrastructure projects are underway to bring EMR capabilities to these areas in the coming years, even when the infrastructure does exist, there remains workforce and organisational barriers to the implementation of clinical AI, such as trust, AI literacy, and capability, that are more pronounced in rural and regional areas.[3] With the speed of technological advancement, rural and regional health services cannot wait this long before starting to address the capability and capacity barriers to digital and AI transformation.

The new metro-rural gap: AI-driven inequity

Two years ago, it was recognised that AI in hospitals across Australia (outside of digital imaging) was virtually non-existent, and that Australia overall was lagging behind other developed countries, such as the United States, when it came to AI implementation.[5] Researchers argued that the lack of AI in Australian hospitals was due in part to a lack of evaluation methods and infrastructure needed to enable safe implementation and evaluation. In response, significant efforts led by

University of Queensland have developed both evaluation and infrastructure methods to address this gap.[6] Eighteen months later, the pipeline of clinical AI tools being developed and tested in metro hospitals in Australia appears to be improving[7], but the same cannot be said for rural and regional settings. Thus in 2025, we are now facing a new potential problem of AI-driven inequity, where metro hospitals, who have the technological capacity for clinical AI, now also have the blueprint to evaluate and implement it safely, while rural settings have neither.

The consequences of a gap between Australia's metro-rural/regional hospitals in AI capability cannot be understated. AI has enormous potential to address some of the most severe issues facing the Australian healthcare system, and rural and regional areas of the country often have the greatest need.[3,4,8,9]



To address this AI gap, we argue that rather than wait until the technological infrastructure is in place, the optimal starting point involves low-risk clinical AI that minimally disrupt existing workflows—even if the impact will be small (see image), to both gain immediate benefits of these tools, but also to prepare for more advanced clinical AI.[3]

Scribing as a quick win use case for rural services

The impact of AI on a given healthcare organisation can be considered through several lenses, including whether the tool is being used for inference (i.e., generating or integrating complex information to enable health care professionals to make decisions about care), or automation (i.e., leveraging routine AI to take over routine clinical or administrative tasks). A promising example of automation-focused AI is ambient scribes (or AI scribes), which "listen" to a clinical encounter between a health care professional and a patient and use a type of generative artificial intelligence known as large-language model (LLM) to summarise the encounter and produce a range of outputs

such as consultation summaries, referral letters, operation notes, and discharge summaries. Moreover, AI scribes can operate independently of an EMR, if required.

AI scribes have enormous transformational potential in Australian hospitals. Recent studies estimate that health care professionals spend more than 40% of their time on documentation and compliance-related tasks, and often outside of scheduled hours and without dedicated support.[10] A national study of rural, regional, and remote services further revealed that clinicians frequently undertake data entry, compliance, and reporting responsibilities without sufficient infrastructure or support, with many describing the situation as "unsustainable" and a major source of professional strain.[11] This burden, compounded by workforce shortages and the complex care needs of rural and regional residents, has been directly linked to clinician burnout, reduced clinical capacity, and diminished well-being. Early international studies suggest that AI scribes may reduce documentation time, improve note completeness, and enhance clinician experience.[12] However, the evidence is still limited and mixed. A recent commentary on AI scribes in remote healthcare settings in Canada cautions that rural communities are frequently under-supported in technology rollouts, placing the burden on local providers to implement new tools despite myriad contextual challenges[13]. Government support for technological infrastructure can help overcome some of these technical hurdles. We argue that successful implementation of these applications can serve as safer starting points to build rural and regional hospital's levels of organisational readiness, capability, confidence, and digital literacy for more advanced clinical AI, as the necessary technological infrastructure is put in place.

Saying that AI scribes are lower risk than clinical AI is not to say that there is no risk, in fact, there is likely to be significant risks relating to hallucinations, paradoxical outcomes on workflow (i.e., increase in documentation time to review AI-outputs compared to business as usual), and serious ethical considerations.[14] We were delighted to see this month the Victorian Government Department of Health released an advisory which established a minimum standard for the implementation and use of AI scribes.[15] While the advisory is a critical first step of **what** hospitals must consider to safely implement AI scribes, there remains a lack of clarity around **how** they should implement AI scribes

safely, and the **how** will no doubt be unique for rural and regional hospitals. For example, we failed previously to understand that implementing technologies such as telehealth, which have tremendous potential for rural and regional hospitals, is fundamentally a socio-technical practice[16,17]. The steps proposed here may prevent the same mistake with AI scribes.

The Australian College of Rural and Remote Medicine (ACRRM) has stated that the implementation of clinical AI must consider the unique circumstances and context in which healthcare is delivered, for which clinical simulation for research plays a valuable role. Implementing AI scribes safely and effectively in rural and regional health care requires attention to context-specific factors. Insights from the DELIVER program, supported by an MRFF Rapid Applied Research Grant[18], highlight some of the unique factors:

1. Rural and regional consumers have higher levels of trust in their health care professionals, which likely impacts their trust and consent for AI scribes.
2. Rural and regional health professionals and consumers have lower levels of digital literacy, which impacts their ability to seek and give consent for AI scribes.
3. Workforce pressures are greater in rural and regional areas.

Clinical simulation for research: A primer

Clinical simulation for research is an emerging best practice method well suited for pre-implementation testing of digital health tools, to understand the human factors, workflow changes, and unintended consequences safely and efficiently.[1] Clinical simulation for research, which originates in clinical simulation for education, involves real clinicians, and real patients or patient actors, simulating a relevant scenario such as a consultation while using the digital health tool. Mixed methods data collection pre, peri, and/or post-simulation, such as observation, 'think-aloud' techniques, quantitative measures, and time taken to complete tasks enable teams to measure a wide range of factors likely to impede successful implementation. The combination of real-time observation and detailed measurement provides insights into complex human factors that are known to led to digital health failures, such as clinician acceptance, trust, workflow disruption, unintended or paradoxical outcomes, and ethical considerations.

Research enablers for AI scribe implementation in rural and regional settings

Just as new research enablers have been necessary to ensure the successful development and implementation of clinical AI,[6] similarly we must leverage research enablers to ensure successful implementation of AI scribes in rural and regional settings. At the pre-implementation stage, a useful research enabler is clinical simulation for research (see primer). This emerging best-practice method in digital health[19] can be used by healthcare providers to assess AI scribe output quality, impact on existing workflow, and the technical integration on simulated care delivery scenarios. Moreover, simulation allows direct comparisons between vendor products prior to deployment. Clinical simulation scenarios, tailored specifically to the challenges of rural and regional health services, would generate further valuable evidence about typical local use cases.

Rural and regional health services have long faced underinvestment in research, which has limited growth in research infrastructure, expertise and collaborative networks. The MRFF Rapid Applied Research Translation rural and regional stream helps address this inequity. Through this funding stream, the Centre for Digital Transformation of Health has partnered with rural and regional health services (DELIVER research program), providing a rural engagement research lead who visits regularly, gradually building understanding of rural contexts and enabling research that responds to local needs. Research funded through these types of collaborative grants could support pilot programs to test the cost-effectiveness, scalability, and sustainment of AI scribes in rural and regional contexts before wider rollout.

To assist during implementation, another critical research enabler is harmonisation of evaluation metrics for AI scribes. Although best-practice guidance is clear that evaluation must occur, there remains a lack of clarity around what evaluation metrics should be selected, with more than two dozen potentially useful metrics to date across process, experience, financial, and quality domains.[20] Rural and regional settings would benefit from clarity around how AI scribes may have a positive impact on clinical outcomes and economic outcomes, such as the return-on-investment. Harmonisation of such metrics, with direct input from rural and regional health service providers and patients, would allow for coordination and shared learning between rural settings with limited resources. The final research enabler is shared infrastructure and protocols required to implement and

monitor AI scribes. Examples include patient consent protocols, staff training programs, patient communication materials, risk management, and monitoring and evaluation tools.

Despite experiencing the most need, currently, rural and regional Australia is lagging the furthest behind in terms of being able to benefit from the transformational potential of AI. Moreover, in the same month as Victoria giving the green light, the South Australian Department of Health banned their use. This inconsistency across regulation of AI scribes is likely due to the lack of evidence around how to safely implement them. At the same time, there are significant, unique risks of shortcuts in AI implementation in rural and regional Australia.[4] This tension can be resolved through research enablers, such as clinical simulation for research at the pre-implementation stage, harmonisation of metrics to evaluate AI scribes, and shared evaluation infrastructure. Vendors can collaborate with research institutions and hospitals to generate the locally needed evidence, and in line with recent Government advisory, rapidly develop monitoring tools for rural health services, supporting responsible and scalable adoption. Finally, we believe that pre-simulation and real-world pilot testing in rural and regional hospitals can inform the development of implementation guidelines to support uptake of AI scribes across the country.

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