

AUSTRALIAN INSTITUTE OF  
HEALTH INNOVATION

*Faculty of Medicine, Health  
and Human Sciences*



MACQUARIE  
University

# Aged care research update

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## **AGED CARE RESEARCH UPDATE**

As residential and community aged care clients and providers embrace information and communication technologies and electronic health record systems, our research is focusing on unlocking these valuable data and linking across health datasets to answer important questions about care trajectories and outcomes.

We are pleased to provide an update on two flagship projects focusing on improving the safety and quality of aged care.

### **A DASHBOARD OF PREDICTIVE ANALYTICS AND DECISION SUPPORT TO DRIVE CARE QUALITY AND PERSON-CENTRED OUTCOMES IN AGED CARE**

Our aged care sector is data rich but information poor. Although providers now collect vast amounts of electronic clinical and care management data, very little attention has been placed on the power of analytics to exploit this data to deliver actionable information about aged care quality. This includes enabling preventive action by creating predictive risk models to provide earlier identification of older Australians who are at risk of adverse events, and implementing real-time integrated data views, such as clinical dashboards, that provide overviews and alerts of areas of care requiring attention.

This project is supported by an NHMRC Partnership Grant with Anglicare.

### **Recent achievements**

Our recent publication on the “The use and predictive performance of the Peninsula Health Falls Risk Assessment Tool (PH-FRAT) in 25 residential aged care facilities” has received detailed media coverage (see below). The study found that PH-FRAT accurately predicted a fall (within six months of PH-FRAT assessment) in only one-third (34%) of residents, indicating poor performance. This raises resident safety concerns as poor performance of the tool may contribute to misleading care decisions and potentially preventing some residents from gaining access to necessary fall prevention interventions.

The findings of this research point to the need for a dynamic fall risk predictive tool, which may

serve to better identify residents at risk of falls. The paper was led by Dr Nasir Wabe and published in *BMC Geriatrics* (<https://doi.org/10.1186/s12877-022-02973-0>). A selection of media coverage follows:

- *Inside Ageing* – 29 April 2022 “Research shows majority of people at risk of a fall in aged care are missed by assessment” Link: <https://insideageing.com.au/research-shows-majority-of-people-at-risk-of-a-fall-in-aged-care-are-missed-by-assessment/>
- *Hospital and Healthcare* – 4 May 2022 “Falls risk: over 65% of at-risk people missed by routine assessment” Link: <https://www.hospitalhealth.com.au/content/agedhealth/news/falls-risk-over-65-of-at-risk-people-missed-by-routine-assessment-160327141>
- *Aged Care Insite* – 4 May 2022 “The go-to tool used to determine people’s risk of falling in aged care homes is ‘out of date’ and poses a safety risk.” Link: <https://www.agedcareinsite.com.au/2022/05/out-of-date-experts-say-falls-tool-is-a-safety-risk/>
- *The Weekly Source* – 5 May 2022 “Peninsula Health Falls Risk Assessment Tool ‘poor’”. Link: <https://www.theweeklysource.com.au/peninsula-health-falls-risk-assessment-tool-poor-says-macquarie-university-study/>

Please find below links to other recent publications from the research team:

- Ludlow K, Westbrook JI, Jorgensen M, Lind KE, Baysari MT, Gray LC, Day RO, Ratcliffe J, Lord SR, Georgiou A, Braithwaite J. **Co-designing a dashboard of predictive analytics and decision support to drive care quality and client outcomes in aged care: a mixed-method study protocol.** *BMJ Open*. 2021 Aug 1;11(8):e048657. Link: <https://bmjopen.bmj.com/content/11/8/e048657>
- Seaman K, Ludlow K, Wabe N, Dodds L, Siette J, Nguyen A, Jorgensen M, Lord SR, Close JC, O’Toole L, Lin C. **The use of predictive fall models for older adults receiving aged care, using routinely collected electronic health record data: a systematic review.** *BMC Geriatrics*. 2022 Dec;22(1):1-3. Link: <https://link.springer.com/article/10.1186/s12877-022-02901-2>
- Wabe N, Siette J, Seaman KL, Nguyen AD, Raban MZ, Hibbert P, Close JCT, Lord R, Westbrook JI. **Epidemiology of falls in 25 Australian residential aged care facilities: a retrospective longitudinal cohort study using routinely collected data.** *International Journal for Quality in Health Care*. 2022 May 19; mzac050. doi: 10.1093/intqhc/mzac050 Link: <https://pubmed.ncbi.nlm.nih.gov/35588391/>

More information on this project can be found on the [AIHI Website](#) or email [nasir.wabe@mq.edu.au](mailto:nasir.wabe@mq.edu.au)

## CARETRACK AGED

CareTrack Aged aims to measure at a population level, evidence-based care delivered to residents in aged care facilities. The first major aim of the research was to determine what *is* evidence-based care in aged care. The NHMRC CareTrack Aged Project Grant Chief Investigators at the Australian Institute of Health Innovation at Macquarie University and the University of Sydney, University of Queensland and Flinders University have released a major paper describing how 236 indicators across 16 conditions that embody evidence-based care in aged care facilities were developed:



- Hibbert PD, Molloy CJ, Wiles LK, Cameron ID, Gray LC, Reed RL, Kitson A, Georgiou A, Gordon SJ, Westbrook J, Arnold G, Mitchell RJ, Rapport F, Estabrooks C, Alexander GL, Vincent C, Edwards A, Carson-Stevens A, Wagner C, McCormack B, Braithwaite J. **Designing clinical indicators for common residential aged care conditions and processes of care: the CareTrack Aged development and validation study.** *International Journal for Quality in Health Care.* 2022 May 9;34(2):1-9. mzac033. <https://doi.org/10.1093/intqhc/mzac033>

The indicators were developed from a systematic review of 5609 recommendations in 139 national and international clinical guidelines followed by a review by Australian clinical experts. The 236 indicators are available in Additional File 5 in the Supplementary Data and more detailed definitions and business rules are available on request.

### Further application

Whilst the indicators are being used for the CareTrack Aged research, they can also be used to assess the quality of care delivered in individual facilities and across organisations to guide improvement and to supplement regulation or accreditation of the aged care sector.

We envisage that these secondary uses are likely to be undertaken with a single condition, i.e., 1 of the 16 conditions identified for CareTrack Aged. Their development is a major step forward for Australian and international aged care sectors, helping to improve transparency so that the level of care delivered to aged care consumers can be rigorously monitored and continuously improved.

More information on this project can be found on the [AIHI Website](#) or email [peter.hibbert@mq.edu.au](mailto:peter.hibbert@mq.edu.au)





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## **FIND OUT MORE**

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