

Infection prevention quality indicators in aged care: ready for a national approach

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Abstract. Accreditation standards for Australian aged care homes include the requirement for programs to ensure infections are controlled. Effective infection prevention programs are supported by surveillance data providing the impetus for quality improvement and facilitating evaluation of interventions at the facility level. In 2016, infection control professionals employed in Victorian public-sector residential aged care services were surveyed to examine the nature and resourcing of local infection prevention programs and monitoring activities. Overall, 164 services participated (90% response rate). A high proportion (84%) reported executive support for infection surveillance, with mean allocation of 12 h per fortnight per facility for infection prevention activities. Current surveillance activities included monitoring of infections and antimicrobial use (90%), influenza vaccination compliance for staff (96%) and residents (76%) and monitoring of infection due to significant organisms (84%). A successful statewide program including eight quality indicators has subsequently been implemented in Victoria. We suggest that a national focus could strengthen this framework, ensuring a uniform strategy with enhanced benchmarking capacity. Stakeholder engagement and refinement of appropriate indicators for monitoring quality improvement in public, not-for-profit and private sectors within aged care is required.

Additional keywords: aged care, infection prevention, surveillance.

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Introduction

Accreditation standards for Australian aged care homes (ACHs) include the requirement for programs to ensure infections are effectively controlled.¹ Recent outbreaks have highlighted the risks associated with congruent living and the need for robust infection prevention programs that support residents to remain well and live meaningful lives.²

Effective infection prevention programs are underpinned by relevant surveillance data providing the impetus for quality improvement and facilitating evaluation of interventions.³ There is currently no coordinated national approach to continuously collect and analyse infection surveillance data in Australian ACHs.

Importance of quality indicators in aged care

In healthcare, the development of standardised quality indicators enables monitoring of performance over time and benchmarking. In hospital settings, these activities are an important element for ensuring that clinical care is aligned with best practice and supported by allocated resources and infrastructure.

Aged care settings are distinct from hospital environments for several reasons, including the provision of a 'home-like' environment for residents and unique workforce skills. Notwithstanding these differences, the use of quality indicators in aged care would be likely to provide many benefits: quantifiable measures of performance, clinician feedback for improvement

and education and transparency for residents and carers.⁴ Outside Australia, quality indicators for elderly populations have been developed to monitor infections and antimicrobial use, and these are frequently used in a multimodal manner, comprising both process and outcome measures.^{5,6} Infection prevention quality indicators are an important element of the potential suite of measures reflecting complex care needs of Australian aged care residents.^{7,8}

Table 1. Infection prevention and surveillance programs, Victorian aged care facilities (2016)

GPs, general practitioners. Ranges shown are minimum–maximum

Facility characteristic	Survey responses
Facility location and composition	
Median (range) no. residents per facility	28 (1–181)
Facility geographically separate to an acute care hospital (%)	42
Median (range) distance to acute care hospital (km)	7 (1–60)
Staff details	
Mean no. staff hours allocated to infection prevention per fortnight	12
Executive support for collection of infection indicators (%)	84
Mean no. visiting GPs per facility	6.5
Facility design and services (%)	
Residents in single bedrooms	87
Rooms with dedicated bathroom	73
Rooms with clinical hand basin	14
Bedrooms carpeted	50
Use of on-site laundering	72
Infection prevention education (%)	
Staff education regarding standard and transmission-based precautions	100
Education provided on commencement of employment and annually	59
Hand hygiene activities (%)	
Education specific to hand hygiene	100
Audit staff hand hygiene compliance	81
Use alcohol-based hand rub	100
Hand hygiene product available at point-of-care	90
Infection surveillance activities (%)	
Monitor influenza vaccination of staff and volunteers	96
Monitor influenza vaccination of residents	76
Participation in acNAPS ^A	90
Surveillance of significant organisms	84
Access to laboratory results to inform surveillance	80
Cleaning of environment and equipment (%)	
Internal cleaning audits performed	73
External cleaning audits performed	53
Cleaning of shared equipment between residents	93
Use of detergent or combined detergent/disinfectant	62

^AThe Aged Care National Antimicrobial Prescribing Survey (acNAPS) is a collaborative national project between the National Centre for Antimicrobial Stewardship and the Victorian Healthcare Associated Infection Surveillance System Coordinating Centre.

Infection prevention and surveillance programs in Victorian ACHs

In 2016, infection control professionals (ICPs) employed in Victorian public-sector residential aged care services (PSRACS) were invited to complete a survey examining their infection prevention programs and available resources. Overall, 164 services participated (90% response rate). The facilities surveyed had a median capacity of 28 residents, with medical review provided by a mean of 6.5 general practitioners per facility. Survey findings are summarised in Table 1. Notably, 84% believed they would have or probably would have the support of their executive team to commence an infection surveillance program, mean allocation to infection prevention activities was 12 staff hours per fortnight per service, 80% reported access to laboratory results for all residents and current surveillance activities included infections and antimicrobial use (90%), influenza vaccination compliance for staff (96%) and residents (76%) and monitoring of significant organisms (84%).

Development and use of standardised infection indicators in aged care

These findings support the fact that infection prevention and control programs and surveillance activities are generally supported and implemented at the facility level. Appreciating that surveillance activities may be strengthened further by a coordinated strategy, ICPs and clinical nurses in PSRACS commenced collection and submission of data to the Victorian Healthcare Associated Infection Surveillance System (VICNISS) Coordinating Centre in 2017, thereby ensuring uniform data submission and support for participating facilities.

Eight indicators have been developed and implemented (Table 2), incorporating process (influenza, pneumococcal and zoster vaccination uptake among residents; influenza vaccination uptake among staff; antimicrobial prescribing practices) and outcome measures (infections due to methicillin-resistant *Staphylococcus aureus*, vancomycin-resistant *Enterococcus* and *Clostridium difficile*). VICNISS provides data reports to

Table 2. Infection quality indicators for aged care

Quality improvement indicator	Surveillance metric
Infections and antimicrobial use	Aged Care National Antimicrobial Prescribing Survey ^A
Vaccination uptake	Resident uptake of annual influenza vaccination Resident uptake of herpes zoster vaccination Resident uptake of pneumococcal vaccination Staff uptake of annual influenza vaccination
Significant organisms	Methicillin-resistant <i>Staphylococcus aureus</i> infections Vancomycin-resistant <i>Enterococcus</i> infections <i>Clostridium difficile</i> infections

^AThe Aged Care National Antimicrobial Prescribing Survey is a collaborative national project between the National Centre for Antimicrobial Stewardship and the Victorian Healthcare Associated Infection Surveillance System Coordinating Centre.

participating PSRACS and the Victorian Department of Health and Human Services using standardised data metrics, electronic data handling and a secure online portal. Further, expert infection control and infectious diseases advice is available to PSRACS, ensuring uniformity of surveillance methods and implementation of best-practice interventions. This model ensures data quality and contributes to staff knowledge, both of which are essential for quality improvement activities at the service level.

National framework for infection indicators in aged care

Looking ahead, targets and triggers for change will be developed to ensure early detection of potential opportunities for improved performance. VICNISS has successfully developed and implemented comparable infection surveillance modules throughout Victorian acute care hospitals that are associated with the PSRACS.⁹ For example, annual staff influenza vaccination uptake in acute care services is currently monitored. A state-wide target of 75% was set in 2014, and this is now met by most participants.¹⁰ In ACHs, a similar process would reduce the risk of influenza transmission, encompassing both staff and residents.¹¹

From a national perspective, we note increasing involvement of ACHs in all states using the national tool for auditing infections and antimicrobial prescribing,¹² suggesting that ACHs outside Victoria now seek standardised monitoring of infection and prescribing practices and the capacity for benchmarking using a quantitative framework. The recent national review of infection prevention activities in ACHs in Australia¹³ will be an important step in understanding the need for developing standardised infection prevention quality indicators nationally.

Conclusion

In summary, we have identified support for infection prevention programs and surveillance activities at the service level in Victoria. Surveyed Victorian PSRACS demonstrate a range of infection surveillance activities to be appropriately supported by existing resources. In addition, we have successfully applied a networked model to strengthen monitoring activities, using a coordinated state-wide approach with an emphasis on quality improvement. We suggest that a national focus could strengthen this process further, ensuring a uniform strategy with enhanced benchmarking capacity. This calls for stakeholder engagement and refinement of appropriate indicators for monitoring quality improvement in public, not-for-profit and private sectors within aged care.

Competing interests

None of the authors has any conflicts of interest to declare.

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