

Infection Prevention and Control

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August 2026

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1. Nurses' Knowledge, Practice, and Associated Factors Regarding Catheter-Associated Urinary Tract Infection Prevention: A Systematic Review and Meta-Analysis

Authors: Asgai, Addisu Simachew; Kidie, Desalegn Mitiku; Lidetu, Tadios; Derse, Tsegaamlak Kumelachew; Kebede, Yideg Abinew; Kelkay, Jenberu Mekurianew; Ayele, Abiot Dagne; Alelign, Misganaw and Abebe, Moges Tadesse

Publication Date: 2026

Journal: SAGE Open Nursing 12, pp. 1–13

2. Embedding the hand-hygiene champion role to improve compliance in intensive care

Authors: Batalla, Mary Grace Anne; Sali, Yumna Mohammad and Cortuna, Alvin

Publication Date: 2026

Journal: British Journal of Nursing 35(15), pp. 754–758

Abstract: Background: Studies have shown that hand-hygiene compliance rates remain low, especially in high-risk patient areas such as the intensive care unit (ICU). Strategies that use active surveillance, peer-to-peer coaching and collective action can potentially improve hand-hygiene compliance rates. Aim: To implement the hand-hygiene champion (HHC) role to increase hand-hygiene compliance rates in the ICU. Methods: The hand-hygiene champion role was implemented as a quality improvement project in the critical care directorate of two tertiary hospital sites in the UK. The project followed the Plan-Do-Study-Act cycle. The project was carried out from February 2025 to February 2026. Findings: Hand-hygiene compliance rates were significantly higher in the intervention group with HHCs, compared with the control group. In addition, hand-hygiene compliance rates significantly increased over time, post implementation of HHCs. Conclusion: Introducing HHCs can potentially improve hand-hygiene compliance in ICUs.

3. Current issues in hand hygiene

Authors: Boyce, John M.

Publication Date: 2026

Journal: American Journal of Infection Control 54(9), pp. S13–S24

Abstract: Achieving optimum levels of hand hygiene adherence among health care personnel (HCP) remains a challenge in many health care facilities. The purpose of this article is to review recent guidelines and new findings of potential importance, and suggest strategies for continued improvement of hand hygiene practices among HCP. A search included articles that addressed important issues related to HCP hand hygiene. The 2022 SHEA/IDSA/APIC Practice Recommendations on hand hygiene provide an extensive list of evidence-based recommendations for improving hand hygiene practices among HCP. The accuracy of direct covert observations can be improved by having "secret shoppers" limit observation sessions to 15-20 minutes and by randomly selecting units to observe. A standard method is needed for determining an adequate sample size of direct covert observations in facilities with varying levels of baseline adherence. Combining direct covert observations with automated hand hygiene monitoring will likely provide the most robust data on hand hygiene practices of HCP. Greater attention should be devoted to improving hand hygiene technique. Continuing efforts are needed to maximize hand hygiene practices among HCP. • Hand hygiene adherence rates continue to be suboptimal in many facilities. • Adequate sample sizes for monitoring hand hygiene are a matter of continued debate. • Use of direct covert observations plus automated monitoring has several advantages. • Improving hand hygiene technique requires greater attention.

4. Hybrid effectiveness-implementation studies in infection prevention and infectious diseases: a narrative review

Authors: Clack, Lauren;Schultes, Marie-Therese;Albers, Bianca and Wolfensberger, Aline

Publication Date: 2026

Journal: Clinical Microbiology and Infection : The Official Publication of the European Society of Clinical Microbiology and Infectious Diseases 32(8), pp. 1225–1237

Abstract: Background Hybrid effectiveness-implementation studies simultaneously assess clinical effectiveness and implementation, thereby accelerating the translation of research into healthcare practice. Such designs are relevant in infection prevention and control (IPC) and infectious diseases (ID), where research-informed interventions frequently face barriers to real-world adoption, implementation, and sustainment. Implementation science offers methods and frameworks to bridge this research-to-practice gap, but the application of hybrid studies remains limited in IPC/ID. Objectives This narrative review aims to give an overview and characterize the use of hybrid effectiveness-implementation studies in IPC and ID research by identifying hybrid studies and protocols, analysing IPC/ID interventions and implementation strategies employed, summarizing implementation and effectiveness outcomes reported, and identifying gaps and opportunities for advancing the field. Sources We systematically searched Medline, Embase, CINAHL, Cochrane, and Clinicaltrials.gov to identify study reports, study protocols, and trial registries published in English, addressing both implementation and clinical effectiveness of IPC/ID interventions in acute inpatient settings. Content Twenty-six hybrid effectiveness-implementation studies were included, predominantly from high-income countries. The studies commonly evaluated effectiveness outcomes such as patient safety, service efficiency, and patient mortality. Frequently reported implementation outcomes included intervention and implementation fidelity, acceptability, adoption and feasibility, and implementation determinants (barriers and facilitators). Diverse conceptual theories, models, and frameworks from implementation science were employed. We identified opportunities for improving hybrid study reporting, including inconsistent labelling of hybrid methods, conceptual overlap between effectiveness and implementation outcomes, particularly fidelity, and fragmented reporting practices separating clinical effectiveness and implementation results. Implications Improving and standardizing reporting of hybrid studies, and expanding hybrid studies to diverse geographical and resource settings could substantially enhance the impact of IPC/ID interventions. Clearer distinction and labelling of hybrid designs and increased methodological rigour would improve comparability across studies, facilitating broader learning and greater real-world applicability of IPC/ID research.

5. Updates to instrument processing standards and guidelines: Practical implications for sterile processing, endoscopy, and infection prevention programs

Authors: Drosnock, Mary Ann

Publication Date: 2026

Journal: American Journal of Infection Control 54(9), pp. S53–S55

Abstract: Reprocessing guidance changes as evidence, technology, and outbreak investigations refine expectations for safe practice. Infection prevention programs need a practical way to track these changes and translate them into survey-ready processes. Consensus standards and technical information reports relevant to medical device reprocessing were reviewed, along with select draft international guidance and multisociety publications. Updates were organized by operational domain and translated into implications for policy, documentation, competency, and auditing. Common themes included stronger

expectations for monitoring, traceability, and storage controls in endoscope processing, and clearer facility-facing guidance for semi-critical devices often processed outside sterile processing (eg, ultrasound probes and dilators). Water quality requirements have become more specific and frequently require coordinated ownership across sterile processing, infection prevention, and facilities/engineering. Updates to steam sterilization and chemical sterilization/high-level disinfection reinforce the need for objective process checks, defined acceptance criteria, and reliable quality system practices to manage changes and nonconformities. Infection prevention programs can reduce risk by keeping policies aligned with current standards, validating staff competency, and using targeted audits with simple data trending to monitor adherence over time. This review focuses on high-impact updates and practical implementation considerations; it is not an exhaustive review of all available guidance. • Major reprocessing standards have been updated with stronger monitoring expectations. • Clearer guidance addresses semi-critical devices (probes, dilators) outside the SPD. • ST108 water quality standards need cross-departmental ownership and response plans. • Steam and chemical sterilization updates stress verification, documentation, and QA. • Targeted audits and quality metrics help maintain survey-ready reprocessing programs.

6. Current perspectives on infection control in gynaecological ultrasound - a narrative review

Authors: Duret, C.; Simon, L. and Chanay, O.

Publication Date: 2026

Journal: The Journal of Hospital Infection 174, pp. 219–230

Abstract: Gynaecological and obstetric ultrasound is widely used in routine care but may expose patients and healthcare workers to avoidable infectious risks. This narrative review provides an integrated overview of infection prevention and control in obstetric and gynaecological ultrasound, drawing on microbiological studies, observational audits, outbreak investigations, guideline documents, and educational interventions published mainly between 2010 and 2026. The available evidence indicates that contamination risk is multi-factorial, involving ultrasound probes, coupling gel, environmental surfaces, and operator dependent behaviours. Effective infection prevention therefore requires a multi-modal approach combining appropriate probe reprocessing, safe gel management, systematic environmental hygiene, and sustained behavioural interventions supported by training, auditing, and feedback. By synthesising microbiological evidence, contamination pathways, and recurrent implementation failures, this review aims to support safer routine practice, strengthen adherence to existing recommendations, and improve consistency in infection prevention practices.

7. Assessment of awareness, adherence, and barriers to device-associated infection prevention measures in intensive care units: A multi-center cross-sectional study

Authors: Ghavidel-Sardsahra, Amirhossein; Fattahpour Marandi, Mohammadtaghi; Seifi, Arash; Afhami, Shirin; Montazeri, Mahnaz and Yekaninejad, Mir Saeed

Publication Date: 2026

Journal: American Journal of Infection Control 54(8), pp. 848–853

Abstract: Adherence to prevention guidelines for device-associated infections in intensive care units (ICUs) is critical but often suboptimal. This study assessed awareness, adherence, and barriers to implementing preventive measures for ventilator-associated pneumonia (VAP), central line-associated bloodstream infections (CLABSI), and catheter-associated urinary tract infections (CAUTI) in Iranian ICUs. In a multi-center, cross-sectional study using census sampling, a structured questionnaire was administered to the head nurse and attending physician in all 20 eligible medical, surgical, and general ICUs in Iranian teaching hospitals. The survey assessed awareness, self-reported adherence to core preventive practices, and perceived implementation barriers. Adherence rates were compared by ICU type. Mean overall adherence was 77.9%; rates were highest for CAUTI (82.0%) and lowest for VAP (73.5%). Surgical ICUs demonstrated significantly higher adherence for CLABSI ($P = .008$) and CAUTI ($P = .015$) prevention compared to general ICUs. The most frequently cited barrier was a lack of periodic staff training (reported by 50% for CLABSI). Adherence to device-associated infection prevention protocols was moderate, with VAP prevention a key challenge. The primary barriers were organizational, including insufficient training and staff shortages, not a lack of guidelines. Improving adherence requires systemic solutions that address institutional infrastructure, provide sustained training, and ensure adequate staffing. • Overall adherence to device-associated infection prevention was 77.9%. • Adherence was lowest for VAP (73.5%) and highest for CAUTI (82.0%). • Surgical ICUs had higher catheter-care adherence than general ICUs. • Main barriers were organizational: insufficient training & staff shortages.

8. Infection Prevention and Control in the Intensive Care Unit: Preventing the Spread of Multi-Drug-Resistant Organisms

Authors: Jatta, Maimuna;McDaniel, Lauren;Nowak, Elizabeth and Harvey, Ellen M.

Publication Date: 2026

Journal: Critical Care Nursing Clinics of North America 38(3), pp. 335–357

Abstract: Antimicrobial resistance is a growing threat to human health and especially relevant in critical care settings. Intensive care unit patients are particularly vulnerable to multidrug-resistant organisms (MDROs) because of characteristic immunosuppression, reliance on medical devices, treatment with broad-spectrum antibiotics, and exposure to the hospital environment. Nurses play a critical role in preventing the spread of MDROs by leading coordinated, multimodal interventions including antibiotic and laboratory stewardship, passive and active pathogen surveillance, implementation and de-escalation of isolation precautions, and evidence-based hygiene measures. Collectively, these team-based interventions can foster a culture of safety that protects individual patients and the wider community.

9. The Role of Infection Prevention in Monitoring and Preventing Healthcare-Associated Viral Respiratory Infection

Authors: Lee, Mary Morgan and Talbot, Thomas R.

Publication Date: 2026

Journal: Infectious Disease Clinics of North America 40(3), pp. 705–723

Abstract: Health care-associated viral respiratory infections are common and cause increased patient morbidity and mortality. Although the threat of viral respiratory infection was underscored by the COVID-19 pandemic, respiratory viruses continue to have a significant impact in health care settings. Studies report decreased nosocomial transmission when aggressive infection control measures are implemented with more success using a multicomponent approach. This review focuses on the epidemiology, transmission, and role of infection prevention in the control of health care-associated respiratory viral infections.

10. Infection Control Strategies to Prevent Emergence and Transmission of Resistant Gram-Negative Bacteria

Authors: Mills, John P.;Rogozin, Evgeny;Seok, Hyeri and Marchaim, Dror

Publication Date: 2026

Journal: Infectious Disease Clinics of North America 40(3), pp. 621–639

Abstract: Multidrug-resistant gram-negative bacteria pose a major threat to patient safety, driven by efficient transmission within health care settings and increasing antimicrobial resistance. This review synthesizes current epidemiology, key reservoirs, and evidence-based prevention strategies for extended-spectrum β -lactamase-producing Enterobacterales, carbapenem-resistant Enterobacterales, carbapenem-resistant *Pseudomonas aeruginosa*, and carbapenem-resistant *Acinetobacter baumannii*. Core interventions include hand hygiene, targeted contact precautions, optimized environmental cleaning, and antimicrobial stewardship. Active surveillance and patient cohorting have selective roles depending on the specific organism, setting, and endemicity. Emerging tools, such as whole-genome sequencing, better delineate transmission dynamics to guide outbreak response.

11. How AI-supported intelligent systems support infection prevention and control training in healthcare: A systematic review of educational functions and outcomes

Authors: Park, Ha-Young and Kim, Yoojin

Publication Date: 2026

Journal: Nurse Education Today 167, pp. 107315

Abstract: Aims Artificial intelligence (AI)-supported intelligent systems have been increasingly incorporated into infection prevention and control (IPC) education and training, primarily to support the monitoring of observable behaviors and the provision of feedback. However, existing evidence has focused largely on short-term compliance outcomes, with limited synthesis of the educational role of AI-supported intelligent systems in supporting sustained IPC competence. This systematic review examined how AI-supported intelligent systems have been designed and used to support IPC education and training, with a focus on system

characteristics, educational functions, and reported outcomes. Design A systematic literature search was conducted across the PubMed/MEDLINE, Embase, Cochrane, and CINAHL databases. Data Sources A total of 18 studies met the inclusion criteria. Findings were qualitatively synthesized according to system design characteristics, educational functions, and outcome domains. Review Methods Methodological quality was appraised using the Mixed Methods Appraisal Tool. Results Most AI-supported intelligent systems focused on hand hygiene and relied on fully automated monitoring systems to capture behaviors and provide performance feedback. Educational functions were predominantly limited to performance assessment, automated feedback, and reminders. Outcomes were mainly measured using compliance or performance metrics, whereas sustained behavioral change and decision quality were rarely assessed. Conclusions AI-supported intelligent systems have been used primarily to reinforce short-term IPC performance and compliance. However, their current applications for supporting sustained competence over time remain limited. The findings of this review suggest that AI-supported intelligent systems may serve as maintenance-oriented educational support by extending learning beyond initial instruction through repeated practice and feedback. Future research should prioritize outcome measures that capture the durability of performance and decision-making processes to better align AI-supported intelligent systems used in IPC education and training with the educational demands of clinical practice.

12. From potential to practice: a UK national roadmap to implement pathogen whole-genome sequencing in infection prevention and control

Authors: Price, James R.;Otter, Jonathan A.;Snell, Luke B.;Eyre, David W.;Larru Martinez, Beatriz;Williams, David;Pires, Daniella;Davies, Frances;Patel, Trupti;Cloutman-Green, Elaine;Brown, Colin S.;Krutikov, Maria;Islam, Jasmin;Parcell, Benjamin J.;Ali, Shanom;Wan, Yu;Rodrigues, Charlene;Stoesser, Nicole;Jauneikaite, Elita and Network, GENOTIPE

Publication Date: 2026

Journal: The Lancet.Microbe , pp. 101491

Abstract: Whole-genome sequencing has substantially advanced the understanding of infection transmission but remains underused in everyday infection prevention and control. The UK pioneered genomic medicine through the 100 000 Genomes Project, tuberculosis surveillance, and foodborne disease programmes; yet, a sustainable framework for routine use of genomic medicine in infection prevention and control has not been realised. In June, 2025, the Genomics to Optimise Infection Prevention (GENOTIPE) Network convened clinicians, academics, public health leaders, and the industry to address this implementation gap. A central challenge is not sequencing capacity alone, but ascertaining when and where genomic information is actionable, and how this information can be delivered in a clinically useful and cost-effective way within operational timeframes. In this Personal View, we outline a national implementation roadmap that emphasises prioritised use-cases, coordinated delivery models, and embedded evaluation of clinical, economic, and system-wide impact. Progress will depend on linking targeted implementation with real-world evidence generation to support sustainable adoption across health-care systems.

13. Developing a standardised surgical site infection prevention bundle: a scoping review of clinical practice guidelines

Authors: Radman, I.; Poklepovic Pericic, T.; Krizanac, Z.; Babic, A.; Bodys-Cupak, I.; Bala, M. M.; Tokalic, R.; Marušić, A.; Puljak, L. and Barcot, O.

Publication Date: 2026

Journal: The Journal of Hospital Infection 174, pp. 170–184

Abstract: Introduction Surgical site infections (SSIs) are common and preventable, yet many perioperative recommendations in clinical practice guidelines (CPGs) are embedded within broader perioperative pathways and inconsistently framed as SSI-preventive. We synthesised guideline-based perioperative interventions, evaluated recommendation strength and supporting evidence, assessed explicit SSI framing, and developed a tiered SSI-focused implementation framework. Methods This scoping review analysed English-language CPGs published January 1, 2012–July 1, 2025, identified via PubMed, EMBASE, guideline repositories, and professional organisation websites. Intervention statements were extracted without SSI-specific prefiltering, aggregated via prespecified operational rules, mapped to SSI-related domains, and assessed for explicit SSI framing, recommendation strength, evidence level, and methodological rigour (using pragmatic AGREE II appraisal). Interventions were classified as universal core, expanded clinical, or system-level/contextual measures. Results Forty-four CPGs yielded 40 aggregated perioperative intervention domains. Explicit SSI framing varied substantially. Intraoperative infection-control and wound-related measures showed the most consistent SSI linkage, strongest recommendations, and moderate-to-high certainty evidence. Physiological, behavioural, nutritional, and organisational measures were frequently recommended but less consistently framed as SSI-preventive and more context-dependent. Enhanced recovery after surgery (ERAS) guidelines contained substantial implicit SSI-relevant content. The final framework comprised nine universal measures (six high-priority essentials and three additional universal measures), a broader set of expanded clinical SSI-relevant measures, and a system-level contextual enabling measures. Conclusion Perioperative guidance contains substantial SSI-relevant content, but explicit SSI framing is inconsistent. This review provides a structured descriptive synthesis of current guideline recommendations and a tiered SSI-focused framework that may support local audit, implementation design, and future prospective evaluation, but does not constitute a validated universal standard.

14. Prevention is all you need: generative artificial intelligence for infection prevention and healthcare epidemiology

Authors: Rodriguez-Nava, Guillermo and Salinas, Jorge L.

Publication Date: 2026

Journal: Current Opinion in Infectious Diseases 39(4), pp. 350–358

Abstract: Purpose of Review Generative artificial intelligence, particularly large language models, has emerged as a promising tool for processing the vast amounts of unstructured

clinical data generated in healthcare. Infection prevention and control relies heavily on manual review of clinical text for surveillance, reporting, and risk assessment, making it a natural application area. We examine the current evidence for these technologies in infection prevention workflows. Recent Findings Large language models have been evaluated for healthcare-associated infection surveillance, including central line-associated bloodstream infections, surgical site infections, and catheter-associated urinary tract infections, with pooled sensitivities exceeding 90% across studies. These tools have also been applied to diagnostic stewardship, risk assessment for multidrug-resistant organism exposure, public health surveillance for avian influenza, and central line necessity auditing. Across applications, models performed best when used to augment rather than replace expert review. Common limitations included reduced specificity, sensitivity to prompt framing, and dependence on the completeness of clinical data provided to the model. Summary Generative artificial intelligence applications show the greatest promise when aligned with their core capability: natural language processing of unstructured clinical text. While current evidence supports their use as screening and decision-support tools with human oversight, further validation across diverse settings and integration within electronic health records are needed before widespread adoption.

15. The Cut that Counts: Surgical Site Infection Prevention Gets a Sharp Update

Authors: Seidelman, Jessica and Anderson, Deverick J.

Publication Date: 2026

Journal: Infectious Disease Clinics of North America 40(3), pp. 567–582

Abstract: Surgical site infections (SSIs) remain the most prevalent and costly health care-associated infection, with rates that have plateaued or increased despite improvements in other infection metrics. This article reviews and synthesizes the 2022 Society for Healthcare Epidemiology of America updated guidelines for SSI prevention, highlighting newly designated essential practices and re-evaluated strategies based on an expanded evidence base. Key updates include the elevation of targeted preoperative decolonization, combined oral and parenteral antibiotic prophylaxis for elective colorectal surgery, vaginal antiseptic preparation before cesarean delivery and hysterectomy, intraoperative antiseptic wound lavage, standardized bundles and checklists, and refined postoperative glucose control targets.

16. Elements and governance of infection prevention and control programs in residential aged care homes: A scoping review

Authors: Shaban, Ramon Z.;Curtis, Kate;Fry, Margaret;McCormack, Brendan;Parker, Deborah;Macbeth, Deborah;Mitchell, Brett G.;Russo, Philip L.;Friedman, N. D.;Bennett, Noleen;Thompson, Lucy;Dalton, Jo-Ann;Dempsey, Kathy;Henderson, Belinda;Considine, Julie;Bowes, Rachel;Powell, Merrick;Battaglini, Eva;Dodson, Nicholas and McKay, Katherine

Publication Date: 2026

Journal: American Journal of Infection Control 54(9), pp. 1023–1032

Abstract: Infection prevention and control (IPC) programs are critical to the wellbeing of older people in residential aged care homes (RACHs). There is a need to collate global evidence on governance and IPC programs in RACHs. To synthesise evidence characterizing the elements of IPC and governance of RACHs. This scoping review examined literature from electronic bibliographic databases and gray literature using citation chaining and manual searching limited to English language and from 1980 to 2025. Studies were screened against eligibility criteria, and data were analyzed using descriptive statistics and content analysis. 75 articles were included. Key components of IPC included standard precautions, employee health, surveillance, staff education, resident care, and outbreak management. Key components of infection control governance were varied but included appointment of an infection control professional and committee. Narrative-style reviews and surveys were most common among peer-reviewed articles, while practical guides and manuals were most common in the gray literature. Evidence published over the last 45 years on governance and elements of IPC programs in RACHs is sparse and heterogenous in scope and quality. This synthesis of evidence on the elements and governance of IPC programs in RACHs demonstrates an evidence-practice gap for future research. • Texts describing IPC programs in RACHs vary widely in scope, content and quality. • Most common elements are standard precautions, employee health and surveillance. • The IPC committee and professional were the most common governance requirements.

17. The Role of Infection Prevention in Preventing the Spread of Vancomycin-Resistant Enterococci in Healthcare Settings

Authors: Shallal, Anita;Crooker, Kyle;Zervos, Marcus and Maki, Gina

Publication Date: 2026

Journal: Infectious Disease Clinics of North America 40(3), pp. 607–619

Abstract: We describe the role of infection prevention in Vancomycin-Resistant Enterococci (VRE) in the health care setting. Despite low levels of virulence, VRE is a global challenge due to an increasing trend in resistance, including novel agents. Basic infection control practices to interrupt transmission, such as hand hygiene, environmental cleaning, and antimicrobial stewardship, are crucial in preventing the spread of VRE. Reducing patient-specific risk factors, such as the presence of indwelling devices, is also crucial. The use of active surveillance screening and contact precautions is not shown to reduce VRE transmission in endemic settings.

18. Infection Prevention and Management in Patients Living With Multiple Myeloma

Authors: Shenoy, Samantha;Faiman, Beth and Catamero, Donna

Publication Date: 2026

Journal: Clinical Journal of Oncology Nursing 30(4), pp. E60–E66

Abstract: BACKGROUND: The landscape of multiple myeloma (MM) treatment has been revolutionized by the emergence of quadruplet therapies and T-cell–redirecting

immunotherapies. Although these advancements offer unprecedented responses and lengths of remission, they simultaneously create a profound state of immune compromise. Infection is a leading cause of death and a significant cause of morbidity in patients living with MM.

OBJECTIVES: This article explores the complex landscape of infection in patients with MM, highlighting nurse responsibilities in early detection and management. Through targeted prevention and treatment strategies, nurses improve the longevity and the daily lived experiences of their patients. **METHODS:** This article is a narrative review of risk factors for infection and current practices for the prevention and management of infections in patients with MM, highlighting updated guidelines for nurses. **FINDINGS:** Risk factors for infection in MM include MM-related immune system dysfunction, disease-related factors such as renal failure, comorbid conditions, and treatment-related immunosuppression or cytopenias. By fostering competence through education, supporting autonomy through structured transitions of care, and maintaining relatedness through the patient–nurse relationship, oncology nurses can mitigate the infection risks associated with modern MM therapy

19. Artificial intelligence for hospital infection prevention and control: real-world implementation, impact, and the gap beyond model development

Authors: Sirago, G.;Zotti, F.;Mele, F.;Misceo, F.;Solarino, B.;Dell'Erba, A. and Ferorelli, D.

Publication Date: 2026

Journal: Journal of Hospital Infection 174, pp. 410–427

20. The quality of artificial intelligence Chatbot responses to patient questions on surgical infection prevention

Authors: Ture, Zeynep;Maraş Baydoğan, Gülseren;Çetinkaya, Feyza İzci;Tarkan, Müslüm;Eryılmaz Eren, Esma and Ulu Kılıç, Ayşegül

Publication Date: 2026

Journal: American Journal of Infection Control 54(8), pp. 835–841

Abstract: Background As patients increasingly turn to artificial intelligence (AI) chatbots for medical information, concerns remain regarding the accuracy, transparency, and readability of these tools. This study aimed to comparatively assess the quality, reliability, understandability, actionability, and readability of Surgical site infection (SSI)-related responses produced by widely used AI chatbots. Methods A cross-sectional design was used to evaluate 6 AI chatbots (ChatGPT-5o, Gemini 2.5 Pro, Gemini 2.5 Flash, DeepSeek, Grok-1.5, Perplexity). Five patient-centered SSI questions were developed through a Delphi method and directed to each chatbot. A multidisciplinary panel of 5 blinded experts rated responses using DISCERN, QUEST, PEMAT-P, and the Web Resource Rating. Readability was assessed using the Simple Measure of Gobbledygook, Flesch Reading Ease, and Ateşman formulas. Inter-rater reliability was calculated using the intraclass correlation coefficient. Results No single chatbot excelled across all domains. ChatGPT-5o achieved the highest quality scores (DISCERN), while DeepSeek showed the highest accuracy (QUEST). Gemini 2.5 Pro demonstrated the best understandability; however, actionability was lower across all platforms. Transparency

was a major weakness: all chatbots scored poorly on Web Resource Rating, with ChatGPT-5o performing best yet still considered a low-quality source. Readability was generally high-level, with most responses requiring high-school to university literacy (Simple Measure of Gobbledygook 11.8-13.9). Conclusions Current AI chatbots are not sufficiently reliable as primary educational tools for SSI prevention. Despite strengths in quality and clarity, shortcomings in transparency and readability limit safe patient use.

21. Qualitative study of older people and carer perceptions of their roles in infection prevention and control in residential aged care homes

Authors: van Gulik, Nantanit;Calder, Wendy;Blencowe, Philippa;Mikus-Cunningham, Alexandra;Bouchoucha, Stephane;Carmichael, Roslyn;Kangutkar, Tejashree and Considine, Julie

Publication Date: 2026

Journal: Geriatric Nursing (New York, N.Y.) 73, pp. 104217

Abstract: Older people living in residential aged care homes (RACHs) are highly vulnerable to infections. Effective implementation of infection prevention and control (IPAC) measures is essential to reduce infection transmission in aged care settings. While there is growing recognition that effective IPAC requires the active involvement of everyone within the RACH environment, the perspectives of older people and carers remain notably absent from the literature. This study explored older peoples' and carers' perceptions of their roles in IPAC in RACHs. A qualitative descriptive study was conducted using semi-structured interviews with 13 older people and carers from two public RACHs in Melbourne, Australia, between May and October 2024. Audio recorded interviews were transcribed and analysed using inductive thematic analysis. Three themes were identified: Shared responsibility, Challenges in making IPAC measures person-centred, and Leave me alone- it's my home. The findings highlight an urgent need to incorporate older people's and carers' perspectives through co designed approaches to develop practical, person-centred IPAC strategies that balance infection prevention with preserving older people's autonomy, dignity, and sense of home.

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