

Infection Prevention and Control

Current Awareness Bulletin

July 2026

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1. Elephant Rounds: a structured multi-disciplinary huddle to operationalise systems thinking in infection prevention and control

Item Type: Journal Article

Authors: Al-Tawfiq, J.

Publication Date: 2026

Journal: Journal of Hospital Infection 173, pp. 111–114

2. 144 Clinical Decision Support Systems for Infection Prevention and Control: A Survey of Adoption, Maturity, and Barriers to Implementation...Society for Healthcare Epidemiology of America (SHEA) Spring Conference, April 7-10, 2026, Chicago, Illinois (abstract)

Authors: Arakoni, L., Rivard, K., Gonzalez, B., Alban, J., Arakoni, V. and Foster, C.

Publication Year: 2026

Publisher: Cambridge University Press

3. Chlorhexidine gluconate vs povidone-iodine for surgical site infection prevention: a systematic review and meta-analysis stratified by surgery type, wound classification, antiseptic formulation, and country income, with meta-regression

Authors: Benhammou, M.;Elraggal, D.;Saleh, S.;Nobuhara, C. K.;van Ramshorst, G. H.;Mimoz, O.;Nounou, M. V.;Shawesh, Q.;Tuuli, M. G.;Wexner, S. D.;Catena, F.;Forrester, J. D. and Elhadi, M.

Publication Date: 2026

Journal: Journal of Hospital Infection 173, pp. 140–153

4. Clinical and Molecular Characteristics of *Klebsiella variicola* and *Klebsiella pneumoniae*: Implications for Management and Infection Control

Authors: Chen, Diandian;Tian, Dequan;Yang, Wenshuo;Zhou, Ziyu;Dai, Yufeng;Ju, Leyang;Liu, Yunyi;Lan, He;Li, Ying;Wang, Peichang and Cao, Jingrong

Publication Date: 2026

Journal: Journal of Global Antimicrobial Resistance

Abstract: Objective To systematically delineate clinical, resistance, and virulence profiles of *Klebsiella variicola* (Kv) and *Klebsiella pneumoniae* (Kp) to inform species-specific management strategies. Methods A retrospective 1:4 matched case-control study enrolled 32 Kv and 128 Kp isolates from Xuanwu Hospital (Jan 2022-Dec 2025). Identification of isolates utilized MALDI-TOF MS and *rpoB* sequencing. Clinical characteristics, antimicrobial susceptibility, biofilm-forming capacity, serum resistance, and genetic determinants were analyzed using standard statistical methods. Results Among 2,454 *K. pneumoniae* complex isolates, Kv accounted for 1.3%. Kv exhibited significantly lower resistance, particularly to carbapenems (3.1% vs. 35.2%; FDR-adjusted q_{KPC} entirely (0% vs. 30.5%). Both species were 100% susceptible to aztreonam-avibactam (AZA); however, one Kv harbored a transferable *bla_{NDM}*. Kp showed higher carriage of classical virulence determinants (e.g., *iutA*+*iucA*, 28.1% vs. 0%) and greater serum resistance. Conversely, 90.6% of Kv lacked these genes, with 62.5% displaying high serum sensitivity. Although intra-abdominal Kv initially formed stronger biofilms (75.0% vs. 12.5%), multivariable regression revealed indwelling tubes (aOR: 6.84, $P < 0.001$), not species, independently drove robust biofilm formation. Clinical mortality did not differ significantly. Conclusions Kp tends to exhibit stronger virulence and resistance profiles, whereas Kv appears to act primarily as an opportunistic pathogen linked to device vulnerabilities. Accurate differentiation may facilitate tailored management (e.g., source control), with AZA emerging as a promising therapeutic option. However, these single-center findings warrant extensive validation in larger multi-center cohorts.

5. Bare-below-the-elbow based hand hygiene intervention to improve compliance among allied healthcare professionals and students

Authors: Doddangoudar, Vijaya C.; Kanishan, Chaithra; Joylin, Stelyna; Dharman, Krishna Kumar and Nayak, Asmitha G.

Publication Date: 2026

Journal: Journal of Infection Prevention 27(4), pp. 194–197

Abstract: Introduction: Nosocomial infections are known to cause poor clinical outcomes. Hand hygiene is recognised as an effective tool in controlling infections. However, poor hand hygiene practice is evident worldwide. Thus, this work aimed to determine the effect of hand hygiene intervention on bare-below-the-elbow, before and after the use of mobile communication devices among allied healthcare professionals and students. Methods: Data was collected in four stages; stage-I was to verify the existence of protocols for hand hygiene. Stage-II was a pre-intervention blind-field observation to determine the compliance rate. Stage-III involved the administration of interventions and stage-IV was based on post-intervention observation to determine the effect of the intervention. The intervention was delivered using scientific literature on hand hygiene and supplemented with a manual demonstration of the same by an infection control nurse. The obtained data was analysed by Kendall rank coefficient test. Results: The compliance rate was found to be 22.0% and 53.0% in the pre- and post-intervention stage respectively, indicating significant improvement in the hand hygiene practices. Discussion: This study advocates active participation of the infection control team and suggests the need of periodic interventions on appropriate hand hygiene, particularly to internship students to sustain the hand hygiene practices and control the spread of nosocomial pathogens.

6. 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.

7. Nurses' experiences in adhering to infection prevention and control guidelines during the COVID-19 pandemic: A qualitative comparative study between Nepal and Scotland

Authors: Kc, Deepti;Smith, Jan and Ness, Valerie

Publication Date: 2026

Journal: The Journal of Hospital Infection

Abstract: Background The COVID-19 pandemic exposed major gaps in infection prevention and control (IPC) worldwide. Despite guidance from organisations such as the World Health Organization (WHO), nurses, as frontline responders, faced considerable challenges in implementing IPC practices globally. This study compared nurses' experiences in Nepal and Scotland in adhering to IPC guidelines during the COVID-19 pandemic using a theory-based approach. Methods A generic qualitative research design with a cross-national comparative approach was employed. The Capability, Opportunity, Motivation-Behaviour (COM-B) model and the Theoretical Domains Framework (TDF) guided the study. Online interviews were conducted with 22 registered nurses (12 from Nepal, 10 from Scotland) working in acute care settings during the pandemic, in their native languages. Data were analysed using Reflexive Thematic Analysis and managed with NVivo 20 software. Results In Nepal, factors related to 11 of 14 TDF domains influenced adherence, while in Scotland, 10 domains were relevant. All components of the COM-B model, Capability, Opportunity, and Motivation, were identified as influencing adherence to IPC guidelines in both countries. Nurses in both countries experienced similar barriers to adherence, including challenges in adapting to changing guidance, gaps in knowledge, skills and training, psychosocial stressors, and organisational changes. Differences were noted in infrastructure and leadership styles. Conclusions This study provides a theory-informed understanding of how behavioural, organisational, and environmental factors influenced nurses' capability, opportunity, and motivation to adhere to IPC guidelines. These insights provide a foundation for developing targeted interventions to improve adherence and strengthen preparedness for future infectious disease outbreaks.

8. Preventing collapse: A premortem on the future of infection prevention and control research and practice

Authors: Monsees, Elizabeth;Stroeve, Stephanie;Pogorzelska-Maziarz, Monika;Hall, Lisa;Kon, Shelley and Gilmartin, Heather

Publication Date: 2026

Journal: American Journal of Infection Control 54(7), pp. 739–746

Abstract: A premortem approach was used to identify risk factors and early warning signs for the potential collapse of infection prevention and control (IPC) research and practice. A cross-sectional, electronic survey was distributed in April 2025. Participants were an international sample of IPC thought leaders who were invited to imagine a hypothetical future in which, by 2029, IPC research and practice had collapsed. They responded to prompts asking for contributing factors, early warning signs, barriers, populations affected and missed opportunities. Responses were analyzed using thematic content analysis. 19 IPC leaders from academia, hospitals, government, and professional organizations participated. Key contributing factors to collapse were restructuring of federal organizations and loss of dedicated IPC funding for education and research. Early warning signs included training program closures, stalled workforce growth, and reduced scholarly output. Underserved, immunocompromised, and older adult populations were seen as most at risk. Missed opportunities included failure to build alternative leadership networks or diversify funding. The premortem identified potential reasons for the hypothetical collapse of IPC research and practice in addition to opportunities for mitigation, emphasizing partnerships, systems-thinking, and advocacy. • IPC leaders identified impact of federal restructuring on IPC practice and research. • Early warning signs included increasing and widespread distrust of public health guidance. • Populations impacted were the underserved, immunocompromised, and older adult communities. • Missed opportunities: lack of coalitions and collaborations outside of the federal government. • Recommendations highlight partnerships, systems-thinking, and advocacy.

9. A decade of change: Comparative findings from the 2015, 2020, and 2025 APIC MegaSurveys on the infection prevention workforce

Authors: Reese, Sara M.;Merrill, Katreena C. and Crapanzano-Sigafoos, Rebecca

Publication Date: 2026

Journal: American Journal of Infection Control 54(7), pp. 733–738

Abstract: Infection preventionists (IPs) are essential in reducing health care-associated infections across increasingly diverse care settings. As responsibilities expand, it is important to understand the evolution of workforce demographics, education, and roles. The 2025 Association for Professionals in Infection Control and Epidemiology (APIC) MegaSurvey was a cross-sectional, online survey of IPs. Survey development, pilot testing, and administration were led by APIC's Center for Research, Practice, and Innovation. Descriptive statistics and Cochran-Mantel-Haenszel tests were used to compare results with the 2015 and 2020 MegaSurveys. Comparisons of the previous MegaSurvey results found significant differences in IP professional background, highest degree achieved, age range, gender, salary, certification, years of experience, and 5-year plans. More IPs (82%) reported a nursing background in 2015 and 2020, than IPs in 2025 (68%; $P < .0001$). Educational attainment increased, with 48% reporting a master's degree or higher in 2025 compared with 34% in 2015 ($P < .0001$). The IP workforce is becoming more diverse, specialized, educated, and distributed

across settings. Ongoing monitoring, competency-based training, and strategic workforce planning are essential to sustain infection prevention capacity. • Infection preventionist workforce is more diverse and highly educated in 2025. • Professional backgrounds broaden beyond nursing. • Roles are expanding across non--acute care settings. • Salaries vary between regions and roles. • Retention intentions declined modestly over time.

10. Leadership experiences of infection prevention and control professionals: Findings from the Leadership Evaluation and Development for Infection Preventionists (LEAD-IP) study

Authors: Ruch, Kayla E. and Al Mohajer, Mayar

Publication Date: 2026

Journal: American Journal of Infection Control 54(7), pp. 754–758

Abstract: Leadership competencies among infection preventionists (IPs) are essential to improving patient safety and reducing health care-associated infections. The Advanced Leadership Certification in Infection Prevention and Control (AL-CIP) recognizes IPs demonstrating advanced leadership, yet little is known about the experiences of certified professionals or how the credential supports leadership development. The Leadership Evaluation and Development for Infection Preventionists (LEAD-IP) study used an observational nested cohort design. Secondary data from all AL-CIP applicants across two 2025 certification cycles were analyzed. A nested cohort representing 18% of certified professionals completed a structured 60-minute qualitative interview. Data were analyzed using Braun and Clarke's inductive thematic analysis. Thirty AL-CIP-certified leaders participated. Seven themes emerged: transition from task-based to systems-level leadership; use of data and structured improvement models; communication and psychological safety as core leadership tools; persistent structural barriers; intentional inclusivity of under-represented teams; proactive risk management; and strengthened leadership identity, confidence, and professional growth through AL-CIP. AL-CIP-certified professionals described leadership roles requiring systems thinking, data literacy, inclusive engagement, and anticipatory risk management. AL-CIP reinforced leadership confidence and credibility and supported career advancement. These findings highlight the value of leadership-focused training and certification in strengthening the infection prevention and control workforce. • AL-CIP leaders shifted from task-based roles to advanced, systems-level leadership. • Data and improvement models were central to infection prevention and control leadership decision-making. • Communication and psychological safety emerged as core leadership practices. • Inclusive engagement of underrepresented infection prevention and control teams was emphasized. • AL-CIP strengthened leadership identify, confidence, and career development.

11. Comparison of methicillin-resistant *Staphylococcus aureus* carriage in a neonatal intensive care unit between pre- and post-COVID-19 pandemic periods, following the introduction of strengthened infection control measures: a retrospective study

Authors: Takahashi, H.;Taku, K.;Mizuki, K. and Hoshina, T.

Publication Date: 2026

12. 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: 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. 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. 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). 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. • AI chatbots are not reliable primary tools for SSI prevention education. • ChatGPT-5o leads in quality, while DeepSeek has the highest accuracy. • Gemini 2.5 Pro is most understandable; actionability is low for all. • Poor transparency and lack of citations are critical weaknesses for all. • High readability levels hinder patients with low health literacy.

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