Royal United Hospitals Bath
NHS Foundation Trust

Infection Prevention and Control

Current Awareness Bulletin

May 2024

Our Current Awareness Bulletins provide details of recently published articles in a given subject. They are a quick and easy way to keep up to date.

Please contact the Academy Library to request any articles:

ruh-tr.library@nhs.net

01225 82 4897/4898

Carry out basic searches using the Knowledge and Library Hub.

Sign up to NHS OpenAthens to access our subscriptions.

Contact us to receive our bulletins via email each month.

Get personalised alerts via our KnowledgeShare service.

ruh.nhs.uk/library

1. **Physician perceptions of barriers to infection prevention and control in labor and delivery**

Authors: Barnes, Laura E. A.;White, Katelyn A.;Young, Marisa R.;Ramsey, Patrick S.;Cochran, Ronda L. and Perkins, Kiran M.

Publication Date: 2024

Journal: Infection Control and Hospital Epidemiology 45(4), pp. 483-490

Abstract: Objective: To learn about the perceptions of healthcare personnel (HCP) on the barriers they encounter when performing infection prevention and control (IPC) practices in labor and delivery to help inform future IPC resources tailored to this setting.; Design: Qualitative focus groups.; Setting: Labor and delivery units in acute-care settings.; Participants: A convenience sample of labor and delivery HCP attending the Infectious Diseases Society for Obstetrics and Gynecology 2022 Annual Meeting.; Methods: Two focus groups, each lasting 45 minutes, were conducted by a team from the Centers for Disease Control and Prevention. A standardized script facilitated discussion around performing IPC practices during labor and delivery. Coding was performed by 3 reviewers using an immersion-crystallization technique.; Results: In total, 18 conference attendees participated in the focus groups: 67% obstetrician-gynecologists, 17% infectious disease physicians, 11% medical students, and 6% an obstetric anesthesiologist. Participants described the difficulty of consistently performing IPC practices in this setting because they often respond to emergencies, are an entry point to the hospital, and frequently encounter bodily fluids. They also described that IPC training and education is not specific to labor and delivery, and personal protective equipment is difficult to locate when needed. Participants observed a lack of standardization of IPC protocols in their setting and felt that healthcare for women and pregnant people is not prioritized on a larger scale and within their hospitals.; Conclusions: This study identified barriers to consistently implementing IPC practices in the labor and delivery setting. These barriers should be addressed through targeted interventions and the development of obstetric-specific IPC resources.

---

2. **Perceptions of infection control professionals toward electronic surveillance software supporting inpatient infections: A mixed methods study**

Authors: Baudet, Alexandre;Brennstuhl, Marie-Jo;Lizon, Julie;Regad, Marie;Thilly, Nathalie;Demoré, Béatrice and Florentin, Arnaud

Publication Date: 2024

Journal: International Journal of Medical Informatics 186, pp. N.PAG

---

3. **Surgical site infection prevention bundles: a focus on preoperative skin decolonisation**

Authors: Chiwera, Lilian

Publication Date: 2024

Journal: British Journal of Nursing 33(9), pp. 430-434

---

4. **Central aspects when implementing an electronic monitoring system for assessing hand hygiene in clinical settings: A grounded theory study**

Authors: Granqvist, Karin;Ahlstrom, Linda;Karlsson, Jon;Lytsy, Birgitta and Erichsen, Annette

Publication Date: 2024

Journal: Journal of Infection Prevention 25(3), pp. 51-58

Abstract: Background: New technologies, such as electronic monitoring systems, have been developed to promote increased adherence to hand hygiene among healthcare workers. However, challenges when implementing these technologies in clinical settings have been identified. Aim: The aim of this study was to explore healthcare workers' experiences when implementing an electronic monitoring system to assess hand hygiene in a clinical setting. Method: Interviews with healthcare workers (registered nurses, nurse assistants and leaders) involved in the implementation process of an electronic monitoring system (n = 17) were conducted and data were analyzed according to the grounded theory methodology formulated by Strauss and Corbin. Results: Healthcare workers' experiences were expressed in terms of leading and facilitating, participating and contributing, and knowing and confirming. These three aspects were merged together to form the core category of collaborating for progress. Leaders were positive and committed to the implementation of the electronic monitoring system, endeavouring to enable facilitation and support for their co-workers (registered nurses and nurse assistants). At the same time, co-workers were positive about the support they received and contributed by raising questions and demands for the product to be used in clinical settings. Moreover, leaders and co-workers were aware of the objective of implementing the electronic monitoring system. Conclusion: We identified dynamic collective work between leaders and co-workers during the implementation of the electronic monitoring system. Leadership, participation and knowledge were central aspects of enhancing a collaborative process. We strongly recommend involving both ward leaders and users of new technologies to promote successful implementation.

---

5. **Development of an infection control competency scale for clinical nurses: an instrument design study**

Authors: Hyeon, Yong Hwan and Moon, Kyoung Ja

Publication Date: 2024

Journal: BMC Nursing 23(1), pp. 1-11

Abstract: Background: Nurses work in close proximity to patients, and as such, they can have a direct impact on the control of infections; thus, it is important for nurses to be competent in infection control. However, the scales used to measure infection control performance in nurses are not suitable for measuring infection control competencies that reflect nurses' expertise, clinical environment, and work. Thus, this study aimed to develop a valid and reliable measure to assess infection control competency of clinical nurses. Methods: A concept analysis, using a

hybrid model, was performed on the infection control competency of clinical nurses to confirm the components and develop 67 initial items. Ten experts evaluated the content validity of these items, and a Korean language expert and a Doctor of Nursing reviewed the questions to consolidate them into 59 items. Subsequently, 267 nurses working at a certified tertiary hospital in D City were surveyed to confirm the validity and reliability of the scale. Results: As a result of the study, the final scale comprising seven factors and 33 questions was derived, and the cumulative explanatory power of these factors was 60.8%. To verify convergent and discriminant validity, confirmatory factor analysis was conducted, and the average variance extraction index, composite reliability values, and confidence interval of the correlation coefficient between factors were confirmed. Convergent and discriminant validities were verified by comparison with standard values. The Cronbach's α for the entire scale in this study was 0.93. Consequently, the validity and reliability of the clinical nurses' infection control competency measurement scale were verified. Conclusions: The validity and reliability of the infection control competency measurement scale for clinical nurses (ICCS-CN) developed in this study was verified, and the scale can be effectively used to measure the infection control competency of clinical nurses. Measuring the infection control competency of clinical nurses will help reduce the harm caused by infection and ensure patient safety by decreasing infection rates in medical institutions.

---

6. **Hand Hygiene Compliance in Nursing Homes - The Effects Of Feedback With Lights on Alcohol-based Hand Rub Dispensers**

Authors: Iversen, Anne-Mette;Hansen, Marco Bo;Kristensen, Brian and Ellermann-Eriksen, Svend

Publication Date: 2024

Journal: American Journal of Infection Control

Abstract: Background: Hand hygiene (HH) among healthcare workers (HCWs) is crucial in preventing infections in nursing homes. However, HH compliance (HHC) among HCWs remains low. This study aimed to investigate the effect of feedback lights on HCWs' HHC.; Methods: A five-month interventional study was conducted in three wards in a nursing home in blinded for reviewers]. During the intervention period, a green light with a smiley appeared on the alcohol-based hand rub (ABHR) dispensers when HCWs used the ABHR, acknowledging HCWs for using the ABHR. HHC was monitored using an automatic hand hygiene monitoring system (AHHMS).; Results: A total of 64 HCWs were enrolled. The AHHMS collected 23,696 HH opportunities in apartments and dirty utility rooms. Overall, HHC in the apartments increased from 50% at baseline (95% CI: 48, 53) to 56% (95% CI: 54, 58) during the intervention. However, the increased HHC level was not sustained during follow-up.; Conclusions: The AHHMS enabled assessment of the intervention. We found a significant effect of light-guided feedback in the apartments. However, the increased HHC was not sustained after the light was switched off.; Competing Interests: Conflicts of interest MBH was employed with Konduto ApS, the developer of Sani Nudge(TM), when the study data were collected and analyzed. The other authors have no competing interests to declare. All authors approved the final article. Conflicts of interest blinded for reviewers].

7. **Japanese Society for infection prevention and control guide to Clostridioides difficile infection prevention and control**

Authors: Kunishima, Hiroyuki;Ichiki, Kaoru;Ohge, Hiroki;Sakamoto, Fumie;Sato, Yuka;Suzuki, Hiromichi;Nakamura, Atsushi;Fujimura, Shigeru;Matsumoto, Kazuaki;Mikamo, Hiroshige;Mizutani, Tetsu;Morinaga, Yoshitomo;Mori, Minako;Yamagishi, Yuka and Yoshizawa, Sadako

Publication Date: 2024

Journal: Journal of Infection and Chemotherapy : Official Journal of the Japan Society of Chemotherapy

---

8. **Impact of the COVID-19 pandemic on infection control nurses: A path analysis of job stress, burnout, and turnover intention**

Authors: Lee, Jae E.;Kim, Sung R. and Chun, Byung C.

Publication Date: 2024

Journal: American Journal of Infection Control 52(6), pp. 683-687

Abstract: A infection control nurse (ICN) has played substantial roles in infection control and epidemiology programs in hospitals to protect patients and coworkers during the coronavirus disease 2019 (COVID-19) pandemic. This study aimed to explore the association between intention to leave in ICNs and job stress and burnout. This cross-sectional study was conducted among ICNs working in hospitals with ≥200 beds in South Korea from October 1 to 22, 2021. Variables included were related to general and job characteristics specific to COVID-19, as well as measures of job stress, burnout, and turnover intention for ICNs from previous studies. Path analysis was used to examine the relationships between job stress, burnout, turnover intention, and COVID-19-related work characteristics. A total of 203 participants were included, of whom 95% were women. The results showed that work intensity in COVID-19 infection control was significantly associated with job stress (P <.001) and burnout (P =.035). Furthermore, job stress (P =.019) and burnout (P <.001) were positively correlated with turnover intention. In a pandemic with emerging infectious diseases, strategies to reduce turnover among ICNs and ensure a sufficient workforce are crucial to reducing work intensity, considering the factors that affect job stress and burnout. • The COVID-19 pandemic placed a significant workload and job stress on IPs. • The pandemic has led to crisis levels of stress, burnout, and turnover for IPs. • Higher work intensity of COVID-19, higher burnout, and job stress in IPs. • Effective pandemic response necessitates human resource management for IPs.

---

9. **Impact of Infection Prevention Programs on Catheter-Associated Urinary Tract Infections Analyzed in Multicenter Study**

Authors: Na, Sun Hee;Eom, Joong Sik;Seo, Yu Bin;Park, Sun Hee;Kim, Young Keun;Song, Wonkeun;Lee, Eunjung;Kim, Sung Ran;Yoo, Hyeon Mi;Chun, Heekyung;Shin, Myoung Jin;Kim, Su Hyun;Choi, Ji Youn;Cho, Nan Hyoung;Kim, Jin Hwa;Son, Hee-Jung;Han, Su Ha

and Lee, Jacob

Publication Date: 2024

Journal: Journal of Korean Medical Science 39(18), pp. e151

Abstract: Background: Catheter-associated urinary tract infections (CAUTIs) account for a large proportion of healthcare-associated infections and have a significant impact on morbidity, length of hospital stay, and mortality. Adherence to the recommended infection prevention practices can effectively reduce the incidence of CAUTIs. This study aimed to assess the characteristics of CAUTIs and the efficacy of prevention programs across hospitals of various sizes.; Methods: Intervention programs, including training, surveillance, and monitoring, were implemented. Data on the microorganisms responsible for CAUTIs, urinary catheter utilization ratio, rate of CAUTIs per 1,000 device days, and factors associated with the use of indwelling catheters were collected from 2017 to 2019. The incidence of CAUTIs and associated data were compared between university hospitals and small- and medium-sized hospitals.; Results: Thirty-two hospitals participated in the study, including 21 university hospitals and 11 small- and medium-sized hospitals. The microorganisms responsible for CAUTIs and their resistance rates did not differ between the two groups. In the first quarter of 2018, the incidence rate was 2.05 infections/1,000 device-days in university hospitals and 1.44 infections/1,000 device-days in small- and medium-sized hospitals. After implementing interventions, the rate gradually decreased in the first quarter of 2019, with 1.18 infections/1,000 device-days in university hospitals and 0.79 infections/1,000 device-days in small- and medium-sized hospitals. However, by the end of the study, the infection rate increased to 1.74 infections/1,000 device-days in university hospitals and 1.80 infections/1,000 device-days in small- and medium-sized hospitals.; Conclusion: We implemented interventions to prevent CAUTIs and evaluated their outcomes. The incidence of these infections decreased in the initial phases of the intervention when adequate support and personnel were present. The rate of these infections may be reduced by implementing active interventions such as consistent monitoring and adherence to guidelines for preventing infections.; Competing Interests: The authors have no potential conflicts of interest to disclose. (© 2024 The Korean Academy of Medical Sciences.)

---

10. **Infection Control in the NICU: The Roles of Surveillance Cultures**

Authors: Schlaeppi, Chloé;Minotti, Chiara and Bielicki, Julia Anna

Publication Date: 2024

Journal: The Pediatric Infectious Disease Journal 43(5), pp. e175-e177

Abstract: Competing Interests: The authors have no funding or conflicts of interest to disclose.

---

11. **Identifying research priorities for infection prevention and control. A mixed methods study with a convergent design**

Authors: Smiddy, M. P.;Burton, E.;Kingston, L.;Poovelikunnel, T. T.;Moyo, M. and Flores, A.

Publication Date: 2024

Journal: Journal of Infection Prevention 25(3), pp. 59-65

Abstract: Background: Meaningful research creates evidence for Infection Prevention and Control (IPC) practice. Aim: To establish Infection Prevention Society (IPS) members' research priorities to support future research projects. Methods: A mixed methods convergent parallel design incorporating a cross-sectional survey of IPS members (2022–2023), and focus group findings from the IPS Consultative Committee, (October 2022). Quantitative data were analysed using descriptive statistics. Qualitative data were transcribed verbatim, entered into NVivo 12, and analysed using a thematic analysis approach. Findings/Results: 132 IPS members responded to the survey, including 120 (90.9%) nurses. The three most prevalent priorities were: Quality Improvement and Patient Safety (n = 84, 16.1%); IPC Training and Education (n = 77, 14.8%); and IPC Evidence-based Guidelines (n = 76, 14.6%). Analysis of the focus group transcripts identified six emergent themes 'Patient Centred Care', 'Training and Education', 'IPC Role and Identity', 'IPC Leadership', 'IPC is Everyone's Responsibility', and 'Research Activity'. Triangulation of findings demonstrated concordance between quantitative and qualitative findings with Quality Improvement and Patient Safety (QIPS) and Training and Education identified as priority research areas. Discussion: This study highlights the necessity of developing support systems and incorporating research priorities in QIPS, as well as Training and Education. The findings of this study align with the recommended core competencies and components for effective infection prevention and control programs, making them relevant to QIPS initiatives. The outcomes of the study will serve as a valuable resource to guide the IPS Research and Development Committee in delivering practical support to IPS members.

---

12. **A comprehensive qualitative investigation of the factors that affect surgical site infection prevention in cardiac surgery in England using observations and interviews**

Authors: Tanner, Judith;Jones, Lyn Brierley;Westwood, Nigel;Rochon, Melissa;Wloch, Catherine;Vaja, Ricky;Rogers, Luke J.;Dearling, Jeremy;Wilson, Keith;Kirmani, Bilal H.;Bhudia, Sunil K.;Rajakaruna, Cha;Petrou, Mario;Bailes, Louise;Jawarchan, Angila;Baker, Maureen and Murphy, Gavin J.

Publication Date: 2024

Journal: The Journal of Hospital Infection

Abstract: Background: Interview and questionnaire studies have identified barriers and challenges to preventing surgical site infections (SSIs) by focusing on compliance with recommendations and care bundles using interviews, questionnaires and expert panels. This study proposes a more comprehensive investigation by using observations of clinical practice plus interviews which will enable a wider focus.; Aim: To comprehensively identify the factors which affect SSI prevention using cardiac surgery as an exemplar.; Methods: One hundred and thirty hours of observed clinical practice followed by individual semi-structured interviews with 16 surgeons, anaesthetists, theatre staff and nurses at four cardiac centres in England. Data were analysed thematically.; Findings: The factors were complex and existed at the level of the intervention, the individual, the team, the organisation and even the wider society. Factors included: the attributes of the intervention; the relationship between evidence, personal beliefs and perceived risk; power and hierarchy; leadership and culture; resources;

infrastructure; supplies; organisation and planning; patient engagement and power; hospital administration; workforce shortages; Covid-19 pandemic; 'Brexit'; and the war in Ukraine.; Conclusion: This is one of the first studies to provide a comprehensive overview of the factors affecting SSI prevention. The factors are complex and need to be fully understood when trying to reduce SSIs. A strong evidence-base was insufficient to ensure implementation of an intervention.