



Document supplémentaire

Tableau S1 : Mots clés et classification des MeSH des quatre concepts choisis pour l'examen de la portée

Données S1 : Liste des 220 articles choisis par un examen systématique par l'intermédiaire de Medline

Figure S1 : Organigramme de l'examen de la portée

Tableau S2 : Nombre d'articles trouvés par pays

Tableau S3 : Nombre d'hôpitaux participants pour quatre programmes de surveillance de HAI NET, le Centre européen de prévention et de contrôle des maladies

Tableau S4 : Infections recensées dans les programmes nationaux de surveillance, 37 pays, 2021

Tableau S1 : Mots clés et classification des MeSH des quatre concepts choisis pour l'examen de la portée

Concept 1 — Infections nosocomiales	Concept 2 — Épidémiologie	Concept 3 — Surveillance	Concept 4 — Administration
Infection contractée à l'hôpital	Mortalité hospitalière ^a	Surveillance	Organismes gouvernementaux ^a
Infection associée à l'hôpital	Hôpital ^a	Surveillance	Établissements de santé ^a
Infection hospitalière	Infection ^a	Surveillance de la santé publique	Collecte de données ^a
Infection associée aux soins de santé	Épidémiologie ^a	Surveillance de la population ^a	Relations interinstitutionnelles ^a
Infection acquise au cours de soins de santé	Résistance aux médicaments ^a	Surveillance antimicrobienne	Programmes nationaux de santé ^a
Infection liée aux soins de santé	Infection bactérienne ^a	Surveillance sentinelle ^a	Surveillance sentinelle
Infection nosocomiale	-	Outils de surveillance	Ligne directrice des pratiques comme sujet ^a
Infection associée aux soins de santé	-	Sécurité des patients ^a	Surveillance de la population
Infections associées aux soins de santé	-	Infection au site chirurgical	Dossiers de santé électroniques ^a
Contrôle des infections ^a	-	Programme de surveillance des médicaments ^a	Méthodes épidémiologiques ^a
Prévention des infections	-	Présentation de rapports destinés au public	Santé publique ^a
Infection nosocomiale	-	Données sur les soins de santé	-
Infection croisée ^a	-	Surveillance épidémiologique ^a	-
-	-	Surveillance nationale de l'infection au site chirurgical	-
-	-	Enquête sur la santé ^a	-
-	-	Résistance aux antibiotiques ^a	-
-	-	Sensibilité aux antibiotiques	-

Abréviations : MeSH, Medical Subject Headings; -, sans objet

^a Termes utilisés comme mots clés et des MeSH



Données S1 : Liste des 220 articles choisis par un examen systématique par l'intermédiaire de Medline

1. Edwards JR, Peterson KD, Andrus ML, Dudeck MA, Pollock DA, Horan TC, National Healthcare Safety Network Facilities. National Healthcare Safety Network (NHSN) Report, data summary for 2006 through 2007, issued November 2008. *Am J Infect Control* 2008;36(9):609–26. [DOI](#)
2. Martin P, Nour Abou Chakra C, Williams V, Bush K, Dyck M, Hirji Z, Kiss A, Larios OE, McGeer A, Moore C, Weiss K, Simor AE, Infection Prevention and Control Canada. Prevalence of antibiotic-resistant organisms in Canadian Hospitals. Comparison of point-prevalence survey results from 2010, 2012, and 2016. *Infect Control Hosp Epidemiol* 2019;40(1):53–59. [DOI](#)
3. Plachouras D, Kärki T, Hansen S, Hopkins S, Lyytikäinen O, Moro ML, Reilly J, Zarb P, Zingg W, Kinross P, Weist K, Monnet DL, Suetens C, The Point Prevalence Survey Study Group. Antimicrobial use in European acute care hospitals: results from the second point prevalence survey (PPS) of healthcare-associated infections and antimicrobial use, 2016 to 2017. *Euro Surveill* 2018;23(46):pii=1800393. [DOI](#)
4. Nimmo GR, Bell JM, Collignon PJ, Australian Group for Antimicrobial Resistance (2003). Fifteen years of surveillance by the Australian Group for Antimicrobial Resistance (AGAR). *Commun Dis Intell Q Rep* 2003;27:S47–S54. [PubMed](#)
5. Nimmo GR, Coombs GW, Pearson JC, O'Brien FG, Christiansen KJ, Turnidge JD, Gosbell IB, Collignon P, McLaws ML. Methicillin-resistant *Staphylococcus aureus* in the Australian community: an evolving epidemic. *Med J Aust* 2006;184(8):384–8. [DOI](#)
6. Dettenkofer M, Ebner W, Hans FJ, Forster D, Babikir R, Zentner J, Pelz K, Daschner FD. Nosocomial infections in a neurosurgery intensive care unit. *Acta Neurochir (Wien)* 1999;141(12):1303–8. [DOI](#)
7. Gastmeier P, Geffers C, Sohr D, Schwab F, Behnke M, Rüdén H. Surveillance of nosocomial infections in intensive care units. Current data and interpretations. *Wien Klin Wochenschr* 2003;115(3-4):99–103. [DOI](#)
8. Lusignani LS, Blacky A, Starzengruber P, Diab-Elschahawi M, Wrba T, Presterl E. A national point prevalence study on healthcare-associated infections and antimicrobial use in Austria. *Wien Klin Wochenschr* 2016;128(3-4):89–94. [DOI](#)
9. Yalçınsoy M, Salturk C, Takir HB, Kutlu SB, Oguz A, Aksoy E, Balci M, Kargin F, Mocin OY, Adiguzel N, Gungor G, Karakurt Z. Case fatality rate related to nosocomial and ventilator-associated pneumonia in an ICU: a single-centre retrospective cohort study. *Wien Klin Wochenschr* 2016;128(3-4):95–101. [DOI](#)
10. Cavalcante EFO, Pereira IRBO, Leite MJVF, Santos AMD, Cavalcante CAA. Implementation of patient safety centers and the healthcare-associated infections. *Rev Gaucha Enferm* 2019;40(spe):e20180306. [DOI](#)
11. Porto JP, Mantese OC, Arantes A, Freitas C, Filho PPG, Ribas RM. Nosocomial infections in a pediatric intensive care unit of a developing country: NHSN surveillance. *Rev Soc Bras Med Trop* 2012;45(4):475–9. [DOI](#)
12. Urzedo JE, Levenhagen MMMD, Pedrosa RS, Abdallah VOS, Sabino SS, Brito DVD. Nosocomial infections in a neonatal intensive care unit during 16 years: 1997-2012. *Rev Soc Bras Med Trop* 2014;47(3):321–6. [DOI](#)
13. Guanche-Garcell H, Requejo-Pino O, Rosenthal VD, Morales-Pérez C, Delgado-González O, Fernández-González D. Device-associated infection rates in adult intensive care units of Cuban university hospitals: International Nosocomial Infection Control Consortium (INICC) findings. *Int J Infect Dis* 2011;15(5):e357–62. [DOI](#)
14. Kanj SS, Zahreddine N, Rosenthal VD, Alamuddin L, Kanafani Z, Molaeb B. Impact of a multidimensional infection control approach on catheter-associated urinary tract infection rates in an adult intensive care unit in Lebanon: International Nosocomial Infection Control Consortium (INICC) findings. *Int J Infect Dis* 2013;17(9):e686–90. [DOI](#)
15. Mitchell R, Taylor G, Rudnick W, Alexandre S, Bush K, Forrester L, Frenette C, Granfield B, Gravel-Tropper D, Happe J, John M, Lavalée C, McGeer A, Mertz D, Pelude L, Science M, Simor A, Smith S, Suh KN, Vayalumkal J, Wong A, Amaratunga K, Canadian Nosocomial Infection Surveillance Program. Trends in health care-associated infections in acute care hospitals in Canada: an analysis of repeated point-prevalence surveys. *CMAJ* 2019;191(36):E981–E988. [DOI](#)
16. Tao L, Hu B, Rosenthal VD, Gao X, He L. Device-associated infection rates in 398 intensive care units in Shanghai, China: International Nosocomial Infection Control Consortium (INICC) findings *Int J Infect Dis* 2011;15(11):e774–80. [DOI](#)
17. González L, Cortés JA. Systematic review of antimicrobial resistance in Enterobacteriaceae isolates from Colombian hospitals. *Biomedica* 2014;34(2):180–97. [DOI](#)
18. Murajda L, Sulaj M, Hudecková H, Litvová S, Buchancová J. Healthcare-associated infections at intensive care unit of department of anesthesiology and intensive medicine at Martin Faculty Hospital. *Cent Eur J Public Health* 2010;18(3):173–6. [DOI](#)
19. Andersen BM, Ringertz SH, Gullord TP, Hermansen W, Lelek M, Norman BI, Nystad MT, Rød KA, Røed RT, Smidesang IJ, Solheim N, Tandberg S, Halsnes R, Wenche Høystad M. A three-year survey of nosocomial and community-acquired infections, antibiotic treatment and re-hospitalization in a Norwegian health region. *J Hosp Infect* 2000;44(3):214–23. [DOI](#)
20. NINSS reports on surgical site infection and hospital acquired bacteraemia. *Commun Dis Rep CDR Wkly* 2000;10(24):213–216. [PubMed](#)



21. Arena F, Vannetti F, Di Pilato V, Fabbri L, Colavecchio OL, Giani T, Marraccini C, Pupillo R, Macchi C, Converti F, Rossolini GM. Diversity of the epidemiology of carbapenemase-producing Enterobacteriaceae in long-term acute care rehabilitation settings from an area of hyperendemicity, and evaluation of an intervention bundle. *J Hosp Infect* 2018;100(1):29–34. [DOI](#)
22. Boyd DA, Mataseje LF, Pelude L, Mitchell R, Bryce E, Roscoe D, Embree J, Katz K, Kibsey P, Lavallee C, Simor AE, Taylor G, Turgeon N, Langley JM, Amaratunga K, Mulvey MR, Canadian Nosocomial Infection Surveillance Program. Results from the Canadian Nosocomial Infection Surveillance Program for detection of carbapenemase-producing *Acinetobacter* spp. in Canadian hospitals, 2010–16. *J Antimicrob Chemother* 2019;74(2):315–320. [DOI](#)
23. Charehbili A, Koek MBG, de Mol van Otterloo JCA, Bronkhorst MWGA, van der Zwaal P, Thomassen B, Waasdorp EJ, Govaert JA, Bosman A, van den Bremer J, Ploeg AJ, Putter H, Meijs AP, van de Velde CJH, van Gijn W, Swijnenburg RJ. Cluster-randomized crossover trial of chlorhexidine-alcohol versus iodine-alcohol for prevention of surgical-site infection (SKINFECT trial). *BJS Open* 2019;3(5):617–622. [DOI](#)
24. Cheng L, Sun N, Li Y, Zhang Z, Wang L, Zhou J, Liang M, Cui X, Gao G, Yuan Q. International comparative analyses of incidents reporting systems for healthcare risk management. *J Evid Based Med* 2011;4(1):32–47. [DOI](#)
25. Cloke DJ, Partington PF. Wound complications in elective orthopaedics: are current British national data relevant? *Ann R Coll Surg Engl* 2007;89(1):41–3. [DOI](#)
26. Coello R, Charlett A, Ward V, Wilson J, Pearson A, Sedgwick J, Borriello P. Device-related sources of bacteraemia in English hospitals--opportunities for the prevention of hospital-acquired bacteraemia. *J Hosp Infect* 2003;53(1):46–57. [DOI](#)
27. Coello R, Charlett A, Wilson J, Ward V, Pearson A, Borriello P. Adverse impact of surgical site infections in English hospitals. *J Hosp Infect* 2005;60(2):93–103. [DOI](#)
28. Condell O, Gubbels S, Nielsen J, Espenhain L, Frimodt-Møller N, Engberg J, Møller JK, Ellermann-Eriksen S, Schønheyder HC, Voldstedlund M, Mølbak K, Kristensen B. Automated surveillance system for hospital-acquired urinary tract infections in Denmark. *J Hosp Infect* 2016;93(3):290–6. [DOI](#)
29. Cooke EM, Coello R, Sedgwick J, Ward V, Wilson J, Charlett A, Ward B, Pearson A. A national surveillance scheme for hospital associated infections in England. Team of the Nosocomial Infection National Surveillance Scheme. *J Hosp Infect* 2000;46(1):1–3. [DOI](#)
30. Cunney R, Humphreys H, Murphy N, Strategy for the Control of Antimicrobial Resistance in Ireland Infection Control Subcommittee. Survey of acute hospital infection control resources and services in the Republic of Ireland. *J Hosp Infect* 2006;64(1):63–8. [DOI](#)
31. Empaire GD, Guzman Siritt ME, Rosenthal VD, Pérez F, Ruiz Y, Díaz C, Di Silvestre G, Salinas E, Orozco N. Multicenter prospective study on device-associated infection rates and bacterial resistance in intensive care units of Venezuela: International Nosocomial Infection Control Consortium (INICC) findings. *Int Health* 2017;9(1):44–49. [DOI](#)
32. Geubbels ELPE, Nagelkerke NJD, Mintjes-De Groot AJ, Vandenbroucke-Grauls CM, Grobbee DE, De Boer AS. Reduced risk of surgical site infections through surveillance in a network. *Int J Qual Health Care* 2006;18(2):127–33. [DOI](#)
33. Gkentzi D, Kortsalioudaki C, Cailles BC, Zaoutis T, Kopsidas J, Tsolia M, Spyridis N, Siahaidou S, Sarafidis K, Heath PT, Dimitriou G, Neonatal Infection Surveillance Network in Greece. Epidemiology of infections and antimicrobial use in Greek Neonatal Units. *Arch Dis Child Fetal Neonatal Ed.* 2019;104(3):F293–F297. [DOI](#)
34. Guanche-Garcell H, Morales-Pérez C, Rosenthal VD. Effectiveness of a multidimensional approach for the prevention of ventilator-associated pneumonia in an adult intensive care unit in Cuba: findings of the International Nosocomial Infection Control Consortium (INICC). *J Infect Public Health* 2013;6(2):98–107. [DOI](#)
35. Huotari K, Lyytikäinen O, Ollgren J, Virtanen MJ, Seitsalo S, Palonen R, Rantanen P, Hospital Infection Surveillance Team. Disease burden of prosthetic joint infections after hip and knee joint replacement in Finland during 1999–2004: capture-recapture estimation. *J Hosp Infect* 2010;75(3):205–8. [DOI](#)
36. Huotari K, Lyytikäinen O, Seitsalo S, Hospital Infection Surveillance Team. Patient outcomes after simultaneous bilateral total hip and knee joint replacements. *J Hosp Infect* 2007;65(3):219–25. [DOI](#)
37. Iordanou S, Middleton N, Papathanassoglou E, Raftopoulos V. Surveillance of device associated infections and mortality in a major intensive care unit in the Republic of Cyprus. *BMC Infect Dis* 2017;17(1):607. [DOI](#)
38. Jahani-Sherafat S, Razaghi M, Rosenthal VD, Tajeddin E, Seyedjavadi S, Rashidan M, Alebouyeh M, Rostampour M, Haghi A, Sayarbayat M, Farazmandian S, Yarmohammadi T, Arshadi FK, Mansouri N, Sarbazi MR, Vilar M, Zali MR. Device-associated infection rates and bacterial resistance in six academic teaching hospitals of Iran: Findings from the International Nosocomial Infection Control Consortium (INICC). *J Infect Public Health* 2015;8(6):553–61. [DOI](#)
39. Leblebicioglu H, Erben N, Rosenthal VD, Atasay B, Erbay A, Unal S, Senol G, Willke A, Özgültekin A, Altin N, Bakir M, Oncul O, Ersöz G, Ozdemir D, Yalcin AN, Özdemir H, Yıldızdaş D, Koksal I, Aygun C, Sirmatel F, Sener A, Tuna N, Akan ÖA, Turgut H, Demiroz AP, Kendirli T, Alp E, Uzun C, Ulusoy S, Arman D. International Nosocomial Infection Control Consortium (INICC) national report on device-associated infection rates in 19 cities of Turkey, data summary for 2003–2012. *Ann Clin Microbiol Antimicrob* 2014;13:51. [DOI](#)



40. Leblebicioglu H, Öztürk R, Rosenthal VD, Akan ÖA, Sirmatel F, Ozdemir D, Uzun C, Turgut H, Ersoz G, Koksali I, Özgültekin A, Esen S, Ulger F, Dilek A, Yılmaz H, Dikmen Y, Aygün G, Tulunay M, Oral M, Ünal N, Cengiz M, Yılmaz L, Geyik MF, Şahin A, Erdogan S, Sacar S, Sungurtekin H, Uğurcan D, Kaya A, Kuyucu N, Yılmaz G, Kaya S, Ulusoy H, İnan A. Impact of a multidimensional infection control approach on central line-associated bloodstream infections rates in adult intensive care units of 8 cities of Turkey: findings of the International Nosocomial Infection Control Consortium (INICC). *Ann Clin Microbiol Antimicrob* 2013;12:10. [DOI](#)
41. Løwer HL, Eriksen HM, Aavitsland P, Skjeldestad FE. The quality of denominator data in surgical site infection surveillance versus administrative data in Norway 2005–2010. *BMC Infect Dis* 2015;15:549. [DOI](#)
42. Lynch BL, Schaffer K. Can guidelines for the control of multi-drug-resistant Gram-negative organisms be put into practice? A national survey of guideline compliance and comparison of available guidelines. *J Hosp Infect* 2019;102(1):1-7. [DOI](#)
43. Manniën J, van den Hof S, Brandt C, Behnke M, Wille JC, Gastmeier P. Comparison of the National Surgical Site Infection surveillance data between The Netherlands and Germany: PREZIES versus KISS. *J Hosp Infect* 2007;66(3):224–31. [DOI](#)
44. Mertens K, Morales I, Catry B. Infections acquired in intensive care units: results of national surveillance in Belgium, 1997-2010. *J Hosp Infect* 2013;84(2):120–5. [DOI](#)
45. Muilwijk J, Walenkamp GHIM, Voss A, Wille JC, van den Hof S. Random effect modelling of patient-related risk factors in orthopaedic procedures: results from the Dutch nosocomial infection surveillance network 'PREZIES'. *J Hosp Infect* 2006;62(3):319–26. [DOI](#)
46. Navoa-Ng JA, Berba R, Rosenthal VD, Villanueva VD, Tolentino MCV, Genuino GAS, Consunji RJ, Mantaring JBV 3rd. Impact of an International Nosocomial Infection Control Consortium multidimensional approach on catheter-associated urinary tract infections in adult intensive care units in the Philippines: International Nosocomial Infection Control Consortium (INICC) findings. *J Infect Public Health* 2013;6(5):389–99. [DOI](#)
47. Rasslan O, Seliem ZS, Ghazi IA, El Sabour MA, El Kholy AA, Sadeq FM, Kalil M, Abdel-Aziz D, Sharaf HY, Saeed A, Agha H, El-Abdeen SA, El Gafarey M, El Tantawy A, Fouad L, Abel-Haleim MM, Muhamed T, Saeed H, Rosenthal VD. Device-associated infection rates in adult and pediatric intensive care units of hospitals in Egypt. International Nosocomial Infection Control Consortium (INICC) findings. *J Infect Public Health* 2012;5(6):394–402. [DOI](#)
48. Rosselló-Urgell J. Nosocomial infection surveillance and control activities in Spain under HELICS and NosoMed programs frame. *J Hosp Infect* 2004;56 Suppl 2:S55–7. [DOI](#)
49. Salama MF, Jamal W, Al Mousa H, Rotimi V. Implementation of central venous catheter bundle in an intensive care unit in Kuwait: Effect on central line-associated bloodstream infections. *J Infect Public Health* 2016;9(1):34–41. [DOI](#)
50. Sánchez-Payá J, Bischofberger C, Lizan M, Lozano J, Muñoz Platón E, Navarro J, Paz J, Vicente JA. Nosocomial infection surveillance and control: current situation in Spanish hospitals. *J Hosp Infect* 2009;72(1):50–6. [DOI](#)
51. Singh S, Chakravarthy M, Rosenthal VD, Myatra SN, Dwivedy A, Bagasrawala I, Munshi N, Shah S, Panigrahi B, Sood S, Kumar-Nair P, Radhakrishnan K, Gokul BN, Sukanya R, Pushparaj L, Pramesh CS, Shrikhande SV, Gulia A, Puri A, Moiyadi A, Divatia JV, Kelkar R, Biswas S, Raut S, Sampat S, Shetty S, Binu S, Pinto P, Arora S, Kamble A, Kumari N, Mendonca A, Singhal T, Naik R, Kothari V, Sharma B, Verma N, Khanna DK, Chacko F. Surgical site infection rates in six cities of India: findings of the International Nosocomial Infection Control Consortium (INICC). *Int Health* 2015;7(5):354–9. [DOI](#)
52. Stockley JM, Allen RM, Thomlinson DF, Constantine CE. A district general hospital's method of post-operative infection surveillance including post-discharge follow-up, developed over a five-year period. *J Hosp Infect* 2001;49(1):48–54. [DOI](#)
53. Szilágyi E, Böröcz K, Gastmeier P, Kurcz A, Horváth-Puhó E. The national nosocomial surveillance network in Hungary: results of two years of surgical site infection surveillance. *J Hosp Infect* 2009;71(1):74–80. [DOI](#)
54. van der Kooij TII, Manniën J, Wille JC, van Benthem BHB. Prevalence of nosocomial infections in The Netherlands, 2007-2008: results of the first four national studies. *J Hosp Infect* 2010;75(3):168–72. [DOI](#)
55. Vansteelandt S, Mertens K, Suetens C, Goetghebeur E. Marginal structural models for partial exposure regimes. *Biostatistics* 2009;10(1):46–59. [DOI](#)
56. Vrijens F, Hulstaert F, Van de Sande S, Devriese S, Morales I, Parmentier Y. Hospital-acquired, laboratory-confirmed bloodstream infections: linking national surveillance data to clinical and financial hospital data to estimate increased length of stay and healthcare costs. *J Hosp Infect* 2010;75(3):158–62. [DOI](#)
57. Wilson JA, Ward VP, Coello R, Charlett A, Pearson A. A user evaluation of the Nosocomial Infection National Surveillance System: surgical site infection module. *J Hosp Infect* 2002;52(2):114–21. [DOI](#)
58. Wójkowska-Mach J, Gulczyńska E, Nowiczewski M, Borszewska-Kornacka M, Domańska J, Merritt TA, Helwich E, Kordek A, Pawlik D, Gadinowski J, Szczapa J, Adamski P, Sulik M, Klamka J, Brzywczy-Włoch M, Heczko PB. Late-onset bloodstream infections of Very-Low-Birth-Weight infants: data from the Polish Neonatology Surveillance Network in 2009-2011. *BMC Infect Dis* 2014;14:339. [DOI](#)
59. Branger B, Comité technique des infections nosocomiales (CTIN) et le Réseau d'alerte d'investigation et de surveillance des infections nosocomiales (RAISIN) avec les centres de coordination des comités de lutte contre les infections nosocomiales (C.CLIN). 2001 national survey of nosocomial infection prevalence among newborns and under-eighteen children and adolescents in France. *Arch Pediatr* 2005;12(7):1085–93. [DOI](#)



60. Che D. What are the determinants of viral outbreaks and is it possible to predict their emergence? *Presse Med* 2019;48(12):1528–1535. [DOI](#)
61. Gaid E, Assiri A, McNabb S, Banjar W. Device-associated nosocomial infection in general hospitals, Kingdom of Saudi Arabia, 2013-2016. *J Epidemiol Glob Health* 2018;7(Suppl 1):S35–S40. [DOI](#)
62. Nuemi G, Astruc K, Aho S, Quantin C. Comparing results of methicillin-resistant *Staphylococcus aureus* (MRSA) surveillance using the French DRG-based information system (PMSI). *Rev Epidemiol Sante Publique* 2013;61(5):455–61. [DOI](#)
63. Aghdassi SJS, Schwab F, Hoffmann P, Gastmeier P. The Association of Climatic Factors with Rates of Surgical Site Infections: 17 Years' Data From Hospital Infection Surveillance. *Dtsch Arztebl Int* 2019;116(31-32):529–536. [DOI](#)
64. Blaich A, Babikir R, Daschner F, Schweins M, Lambert J, Ingenhoven E, Gastmeier P, Dettenkofer M. Quality assurance and infection control in outpatient surgery. *Chirurg* 2007;78(7):630–6. [DOI](#)
65. Brümmer S, Sohr D, Rüdén H, Gastmeier P. Surgical site infection rates using a laparoscopic approach: results of the German national nosocomial infections surveillance system. *Chirurg* 2007;78(10):910–4. [DOI](#)
66. Chaberny IF, Wriggers A, Behnke M, Gastmeier P. Antibiotics: MRSA prevention measures in German hospitals: results of a survey among hospitals, performed as part of the MRSA-KISS module. *Dtsch Arztebl Int* 2010;107(37):631–7. [DOI](#)
67. Dettenkofer M. Current challenges on hospital hygiene. *Gesundheitswesen* 2001;63 (Suppl 2):S139–41. [DOI](#)
68. Fiorio M, Marvaso A, Viganò F, Marchetti F. Incidence of surgical site infections in general surgery in Italy. *Infection* 2006;34(6):310–4. [DOI](#)
69. Gastmeier P, Behnke M, Breier AC, Piening B, Schwab F, Dettenkofer M, Geffers C. Healthcare-associated infection rates: measuring and comparing. Experiences from the German National Nosocomial Infection Surveillance System (KISS) and from other surveillance systems. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 2012;55(11-12):1363-9. [DOI](#)
70. Gastmeier P, Brandt C, Sohr D, Babikir R, Mlageni D, Daschner F, Rüdén H. Surgical site infections in hospitals and outpatient settings. Results of the German nosocomial infection surveillance system (KISS). *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 2004;47(4):339–44. [DOI](#)
71. Gastmeier P, Sohr D, Brandt C, Eckmanns T, Behnke M, Rüdén H. Reduction of orthopaedic wound infections in 21 hospitals. *Arch Orthop Trauma Surg* 2005 Oct;125(8):526–30. [DOI](#)
72. Gastmeier P, Sohr D, Geffers C, Behnke M, Daschner F, Rüdén H. Mortality risk factors with nosocomial *Staphylococcus aureus* infections in intensive care units: results from the German Nosocomial Infection Surveillance System (KISS). *Infection* 2005;33(2):50–5. [DOI](#)
73. Gastmeier P, Sohr D, Geffers C, Nassauer A, Daschner F, Rüdén H. Are nosocomial infection rates in intensive care units useful benchmark parameters? *Infection* 2000;28(6):346–50. [DOI](#)
74. Gastmeier P, Sohr D, Geffers C, Nassauer A, Dettenkofer M, Rüdén H. Occurrence of methicillin-resistant *Staphylococcus aureus* infections in German intensive care units. *Infection* 2002;30(4):198–202. [DOI](#)
75. Gastmeier P, Sohr D, Geffers C, Zuschneid I, Behnke M, Rüdén H. Mortality in German intensive care units: dying from or with a nosocomial infection? *Anesthesiol Intensivmed Notfallmed Schmerzther* 2005;40(5):267–72. [DOI](#)
76. Gastmeier P, Weist K, Rüdén H. Catheter-associated primary bloodstream infections: epidemiology and preventive methods. *Infection* 1999;27 (Suppl 1):S1–6. [DOI](#)
77. Geffers C, Gastmeier P. Nosocomial infections and multidrug-resistant organisms in Germany: epidemiological data from KISS (the Hospital Infection Surveillance System). *Dtsch Arztebl Int* 2011;108(6):87–93. [DOI](#)
78. Geffers C, Koch J, Sohr D, Nassauer A, Daschner F, Rüdén H, Gastmeier P. [Establishment of a national database for ICU-associated infections. First results from the “Krankenhaus-Infektions-Surveillance-System” (KISS)]. *Aufbau einer Referenzdatenbank für nosokomiale Infektionen auf Intensivstationen. Erste Ergebnisse des nationalen Krankenhaus-Infektions-Surveillance-Systems (KISS)*. *Anaesthesist* 2000;49(8):732–7. [DOI](#)
79. Geffers C, Piening B, Schwab F, Gastmeier P. [Surveillance of nosocomial infections among very low birth weight infants in NEO-KISS: from a voluntary system to a mandatory regulation]. *Surveillance nosokomialer Infektionen bei Frühgeborenen (<1500 g Geburtsgewicht) in NEO-KISS: von der Freiwilligkeit zur Verpflichtung*. *Z Geburtshilfe Neonatol* 2008;212(5):170–5. [DOI](#)
80. Geffers C, Zuschneid I, Sohr D, Rüdén H, Gastmeier P. [Microbiological isolates associated with nosocomial infections in intensive care units: data of 274 intensive care units participating in the German Nosocomial Infections Surveillance System (KISS)]. *Erreger nosokomialer Infektionen auf Intensivstationen: Daten des Krankenhaus-Infektions-Surveillance-Systems (KISS) aus 274 Intensivstationen*. *Anesthesiol Intensivmed Notfallmed Schmerzther* 2004;39(1):15–9. [DOI](#)
81. Kappstein I, van der Mühlen K, Meschzan D, Vatou V, Bieg-Habermann S. [Prevention of transmission of methicillin-resistant *Staphylococcus aureus* (MRSA) infection: standard precautions instead of isolation: a 6-year surveillance in a university hospital]. *Prävention von MRSA-Übertragungen: Standardhygiene statt Isolierung : 6 Jahre Überwachung in einem Universitätsklinikum*. *Chirurg* 2009;80(1):49–61. [DOI](#)



82. Kerwat K, Geffers C, Gastmeier P, Wulf H. [The hospital infection surveillance system (KISS)]. *Krankenhaushygiene - Das Krankenhaus-Infektions-Surveillance-System (KISS)*. *Anasthesiol Intensivmed Notfallmed Schmerzther* 2010;45(9):562–3. [DOI](#)
83. Leistner R, Hirsemann E, Bloch A, Gastmeier P, Geffers C. Costs and prolonged length of stay of central venous catheter-associated bloodstream infections (CVC BSI): a matched prospective cohort study. *Infection* 2014;42(1):31–6. [DOI](#)
84. Leistner R, Piening B, Gastmeier P, Geffers C, Schwab F. Nosocomial infections in very low birthweight infants in Germany: current data from the National Surveillance System NEO-KISS. *Klin Padiatr* 2013;225(2):75–80. [DOI](#)
85. Maechler F, Geffers C, Schwab F, Peña Diaz LA, Behnke M, Gastmeier P. [Development of antimicrobial resistance in Germany : What is the current situation?]. *Entwicklung der Resistenzsituation in Deutschland : Wo stehen wir wirklich?*. *Med Klin Intensivmed Notfmed* 2017;112(3):186–191. [DOI](#)
86. Maechler F, Peña Diaz LA, Schröder C, Geffers C, Behnke M, Gastmeier P. Prevalence of carbapenem-resistant organisms and other Gram-negative MDRO in German ICUs: first results from the national nosocomial infection surveillance system (KISS). *Infection* 2015;43(2):163–8. [DOI](#)
87. Meyer E, Schröder C, Gastmeier P, Geffers C. The reduction of nosocomial MRSA infection in Germany: an analysis of data from the Hospital Infection Surveillance System (KISS) between 2007 and 2012. *Dtsch Arztebl Int* 2014;111(19):331–6. [DOI](#)
88. Meyer E, Schwab F, Gastmeier P, Rüden H, Daschner FD. Is the prevalence of *Stenotrophomonas maltophilia* isolation and nosocomial infection increasing in intensive care units?. *Eur J Clin Microbiol Infect Dis* 2006;25(11):711–4. [DOI](#)
89. Mlangeni D, Babikir R, Gastmeier P, Daschner F. [AMBU-KISS: quality control in outpatient surgery]. *AMBU-KISS. Qualitätssicherung beim ambulanten Operieren*. *Chirurg* 2004;75(3):265–8. [DOI](#)
90. Rücker G, Schoop R, Beyersmann, Schumacher JM, Zuschneid I. Are KISS data representative of German intensive care units? Statistical issues. *Methods Inf Med* 2006;45(4):424–9. [DOI](#)
91. Stiller A, Schröder C, Gropmann A, Schwab F, Behnke M, Geffers C, Holzhausen J, Sunder W, Gastmeier P. [Analysis of contemporary hospital infrastructure pertaining to infection prevention in Germany]. *Ausstattung mit Handdesinfektionsmittelspendern und Einbettzimmern in Hinblick auf die Infektionsprävention - eine Bestandsaufnahme in Krankenhäusern in Deutschland*. *Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz* 2016;59(8):986–91. [DOI](#)
92. Vonberg RP, Behnke M, Rüden H, Gastmeier P. [Costs due to urinary tract infections in Germany. An estimation based on the data from the German National Nosocomial Infections Surveillance System]. *Kosten durch Harnwegsinfektionen in Deutschland. Eine Hochrechnung der Daten des Krankenhaus-Infektions-Surveillance-Systems*. *Urologe A* 2008;47(1):54–8. [DOI](#)
93. Kanj S, Kanafani Z, Sidani N, Alamuddin L, Zahreddine N, Rosenthal V. International nosocomial infection control consortium findings of device-associated infections rate in an intensive care unit of a lebanese university hospital. *J Glob Infect Dis* 2012;4(1):15–21. [DOI](#)
94. Khan ID, Basu A, Kiran S, Trivedi S, Pandit P, Chattoraj A. Device-Associated Healthcare-Associated Infections (DA-HAI) and the caveat of multiresistance in a multidisciplinary intensive care unit. *Med J Armed Forces India* 2017;73(3):222–231. [DOI](#)
95. Mathur P, Tak V, Gunjijal J, Nair SA, Lalwani S, Kumar S, Gupta B, Sinha S, Gupta A, Gupta D, Misra MC. Device-associated infections at a level-1 trauma centre of a developing nation: impact of automated surveillance, training and feedbacks. *Indian J Med Microbiol* 2015;33(1):51–62. [DOI](#)
96. Estañ-Capell J, Alarcón-Torres B, Domingo Bermúdez J, Martínez-Rodríguez L, Martínez-Costa C. Effect of a surveillance system for decreasing neonatal nosocomial infections. *Early Hum Dev* 2019;131:36–40. [DOI](#)
97. Agodi A, Auxilia F, Barchitta M, Mario D'Errico M, Montagna MT, Pasquarella C, Tardivo S, Mura I, GISIO-Sitl. [Control of intubator associated pneumonia in intensive care unit: results of the GISIO-Sitl SPIN-UTI Project]. *Controllo del rischio di polmonite associata a intubazione in terapia intensiva: risultati del Progetto SPIN-UTI del GISIO-Sitl*. *Epidemiol Prev* 2014;38(6 Suppl 2):51–6. [PubMed](#)
98. Agodi A, Barchitta M, Auxilia F, Brusaferro S, D'Errico MM, Montagna MT, Pasquarella C, Tardivo S, Arrigoni C, Fabiani L, Laurenti P, Mattaliano AR, Orsi GB, Squeri R, Torregrossa MV, Mura I, SPIN-UTI network GISIO-Sitl. Epidemiology of intensive care unit-acquired sepsis in Italy: results of the SPIN-UTI network. *Ann Ig* 2018;30(5 Supple 2):15–21. [DOI](#)
99. Agodi A, Barchitta M, Mura I, Pasquarella C, Torregrossa MV, Gisio Sitl. The commitment of the GISIO-Sitl to contrast Healthcare-Associated Infections and the experience of prevalence studies in Sicily. *Ann Ig* 2018;30(4 Supple 1):38–47. [DOI](#)
100. Mazzoli S, Fantini A, Grifi GN, Bandini F, Sessa R, Spina C, Salis S, Vergassola R. [Infections due to central catheterizations in a cardiac intensive care unit: an evaluation of 6 months of continuous surveillance. The nursing personnel of a cardiac intensive care unit]. *Infezioni da cateterismi centrali in UTIC : valutazione di sei mesi di sorveglianza continua. Personale infermieristico UTIC*. *G Ital Cardiol* 1995;25(8):991–8. [PubMed](#)
101. Orsi GB, Ciorba V. Vancomycin resistant enterococci healthcare associated infections. *Ann Ig* 2013;25(6):485–92. [DOI](#)



102. Wójkowska-Mach J, Merritt TA, Borszewska-Kornacka M, Domańska J, Gulczyńska E, Nowiczewski M, Helwich E, Kordek A, Pawlik D, Adamski P. Device-associated pneumonia of very low birth weight infants in Polish Neonatal Intensive Care Units. *Adv Med Sci* 2016;61(1):90–5. DOI
103. Eriksen HM, Løwer HL, Tappert C, Fosse U, Myrbakk T, Berg TC, Sorknes NK, Skråmm I. Infeksjon i operasjonsområdet. *Tidsskr Nor Laegeforen* 2018;138(14). DOI
104. E Eriksen HM, Sæther AR, Økland I, Langen E, Sandness Y, Bødtker A, Skjeldestad FE. Antibiotics prophylaxis in connection with caesarean section--guidelines at Norwegian maternity departments. *Tidsskrift for den Norske laegeforening : tidsskrift for praktisk medicin, ny raecke. Tidsskr Nor Laegeforen* 2011;131(23):2355–8. DOI
105. Duszyńska W, Rosenthal VD, Dragan B, Węgrzyn P, Mazur A, Wojtyra P, Tomala A, Kübler A. Ventilator-associated pneumonia monitoring according to the INICC project at one centre. *Anaesthesiol Intensive Ther* 2015;47(1):34–9. DOI
106. Wójkowska-Mach J, Baran M, Drwiła R, Ziętkiewicz M, Foryciarz E, Synowiec E, Romaniszyn D, Heczko PB. Factors influencing the occurrence of nosocomial bloodstream infections observed in thoracic and cardiosurgical postoperative care units. *Anaesthesiol Intensive Ther* 2012;44(1):16–20. PubMed
107. Alvarez-Lerma F, Palomar M, Insausti J, Olaechea P, Cerdá E, Castillo F, Martínez-Pellús A, Grupo de Estudio Nacional de Vigilancia de Infección Nosocomial en UCI. [Infections caused by *Acinetobacter* spp. in critically ill ICU patients]. Infecciones por *Acinetobacter* spp. en pacientes críticos en UCI. *Enferm Infecc Microbiol Clin* 2005;23(9):533–9. DOI
108. Díaz-Agero-Pérez C, José Pita-López M, Robustillo-Rodela A, Figuerola-Tejerina A, Monge-Jodrá J, Grupo de Trabajo INCLIMECC de la Comunidad de Madrid. [Assessment of the surgical site infection in 14 hospitals of the Madrid Region: an incidence study]. Evaluacion de la infeccion de herida quirurgica en 14 hospitales de la Comunidad de Madrid : estudio de incidencia. *Enferm Infecc Microbiol Clin* 2011;29(4):257–62. DOI
109. Esteve F, Pujol M, Ariza J, Gudíol F, Verdaguer R, Císnal M, José-Argerich M, Mañez R. [Impact of a prevention program for catheter-related bloodstream infection in the intensive care unit of a tertiary hospital]. Impacto de un programa de prevencion de la bacteriemia relacionada con el cateter en una unidad de cuidados intensivos de un hospital terciario. *Enferm Infecc Microbiol Clin* 2009;27(10):561–5. DOI
110. Jaén F, Sanz-Gallardo MI, Arrazola MP, García de Codes A, de Juanes A, Resines C, Grupo de Trabajo INCLIMECC de la Comunidad de Madrid. [Multicentre study of infection incidence in knee prosthesis]. Estudio multicentrico sobre la incidencia de infeccion en protesis de rodilla. *Rev Esp Cir Ortop Traumatol* 2012;56(1):38–45. DOI
111. López-Contreras J, Limón E, Matas L, Olona M, Sallés M, Pujol M, VINCat Program. Epidemiology of surgical site infections after total hip and knee joint replacement during 2007-2009: a report from the VINCat Program. *Enferm Infecc Microbiol Clin* 2012;30(Suppl 3):26–32. DOI
112. Madrid-Aguilar M, López-Herrera MC, Pérez-López J, Escudero-Argaluz J, Santesteban-Otazu E, Piening B, Villate-Navarro JI, Pijoán-Zubizarreta JI, Grupo NeoKissEs PI13 00587. [Implementation of NeoKissEs in Spain: A validated surveillance system for nosocomial sepsis in very low birth weight infants]. Implementacion de NeoKissEs en Espana : un sistema validado de vigilancia de la sepsis nosocomial en recién nacidos de muy bajo peso. *An Pediatr (Engl Ed)* 2019;91(1):3–12. DOI
113. Olaechea PM, Palomar M, Álvarez-Lerma F, Ota JJ, Insausti J, López-Pueyo MJ, ENVIN-HELICS Group. Morbidity and mortality associated with primary and catheter-related bloodstream infections in critically ill patients. *Rev Esp Quimioter* 2013;26(1):21–9. PubMed
114. Palomar M, Vaque J, Alvarez Lerma F, Pastor V, Olaechea P, Fernández-Crehuet J. [Nosocomial infection indicators]. Indicadores de infeccion nosocomial. *Med Clin (Barc)* 2008;131(Suppl 3):48–55. DOI
115. Pujol M, Limón E, López-Contreras J, Sallés M, Bella F, Gudíol F, VINCat Program. Surveillance of surgical site infections in elective colorectal surgery. Results of the VINCat Program (2007-2010). *Enferm Infecc Microbiol Clin* 2012;30 Suppl 3:20–5. DOI
116. Frank C, Milde-Busch A, Werber D. Results of surveillance for infections with Shiga toxin-producing *Escherichia coli* (STEC) of serotype O104:H4 after the large outbreak in Germany, July to December 2011. *Euro Surveill* 2014;19(14):20760. DOI
117. Koek MB, Wille JC, Isken MR, Voss A, van Benthem BH. Post-discharge surveillance (PDS) for surgical site infections: a good method is more important than a long duration. *Euro Surveill* 2015 ;20(8):pii=21042. DOI
118. Lambert ML, Mertens K, Ramboer I, Delmée M, Suetens C. Nation-wide prospective surveillance of *Clostridium difficile* infections in hospitals in Belgium, July 2007-June 2008. *Euro Surveill* 2009;14(14):2–4. DOI
119. Natale A, Stelling J, Meledandri M, Messenger LA, D'Ancona F. Use of WHONET-SaTScan system for simulated real-time detection of antimicrobial resistance clusters in a hospital in Italy, 2012 to 2014. *Euro Surveill* 2017;22(11):pii=30484. DOI
120. Tandan M, Burns K, Murphy H, Hennessy S, Cormican M, Vellinga A. Antimicrobial prescribing and infections in long-term care facilities (LTFC): a multilevel analysis of the HALT 2016 study, Ireland, 2017. *Euro Surveill* 2018;23(46):1800278. DOI



121. Tandan M, O'Connor R, Burns K, Murphy H, Hennessy S, Roche F, Donlon S, Cormican M, Vellinga A. A comparative analysis of prophylactic antimicrobial use in long-term care facilities in Ireland, 2013 and 2016. *Euro Surveill* 2019;24(11):1800102. [DOI](#)
122. Van Beek J, Räisänen K, Broas M, Kauranen J, Kähkölä A, Laine J, Mustonen E, Nurkkala T, Puhto T, Sinkkonen J, Torvinen S, Vornanen T, Vuento R, Jalava J, Lyytikäinen O. Tracing local and regional clusters of carbapenemase-producing *Klebsiella pneumoniae* ST512 with whole genome sequencing, Finland, 2013 to 2018. *Euro Surveill* 2019;24(38):1800522. [DOI](#)
123. Słowik R, Kołpa M, Wałaszek M, Róžańska A, Jagiencarz-Starzec B, Zieńczyk W, Kawik Ł, Wolak Z, Wójkowska-Mach J. Epidemiology of Surgical Site Infections Considering the NHSN Standardized Infection Ratio in Hip and Knee Arthroplasties. *Int J Environ Res Public Health* 2020;17(9):3167. [DOI](#)
124. Vatopoulos AC, Kalapothaki V, Legakis NJ. An electronic network for the surveillance of antimicrobial resistance in bacterial nosocomial isolates in Greece. The Greek Network for the Surveillance of Antimicrobial Resistance. *Bull World Health Organ* 1999;77(7):595–601. [PubMed](#)
125. Albert K, Ross B, Calfee DP, Simon MS. Overreporting healthcare-associated *C. difficile*: A comparison of NHSN LabID with clinical surveillance definitions in the era of molecular testing. *Am J Infect Control* 2018;46(9):998–1002. [DOI](#)
126. Álvarez-Lerma F, Palomar-Martínez M, Sánchez-García M, Martínez-Alonso M, Álvarez-Rodríguez J, Lorente L, Arias-Rivera S, García R, Gordo F, Añón JM, Jam-Gatell R, Vázquez-Calatayud M, Agra Y. Prevention of Ventilator-Associated Pneumonia: The Multimodal Approach of the Spanish ICU "Pneumonia Zero" Program. *Crit Care Med* 2018;46(2):181–188. [DOI](#)
127. Álvarez-Moreno C, Pérez-Fernández AM, Rosenthal VD, Quintero J, Chapeta-Parada E, Linares C, Pinilla-Martínez IF, Martínez-Saleg PA, Sierra P, Mindiola-Rochel AE. Surgical site infection rates in 4 cities in Colombia: findings of the International Nosocomial Infection Control Consortium (INICC). *Am J Infect Control* 2014;42(10):1089–92. [DOI](#)
128. Backman LA, Melchreit R, Rodriguez R. Validation of the surveillance and reporting of central line-associated bloodstream infection data to a state health department. *Am J Infect Control* 2010;38(10):832–8. [DOI](#)
129. Berríos-Torres SI, Yi SH, Bratzler DW, Ma A, Mu Y, Zhu L, Jernigan JA. Activity of commonly used antimicrobial prophylaxis regimens against pathogens causing coronary artery bypass graft and arthroplasty surgical site infections in the United States, 2006–2009. *Infect Control Hosp Epidemiol* 2014;35(3):231–9. [DOI](#)
130. Cato KD, Liu J, Cohen B, Larson E. Electronic Surveillance of Surgical Site Infections. *Surg Infect (Larchmt)* 2017;18(4):498–502. [DOI](#)
131. Centers for Disease Control and Prevention (CDC). Vital signs: central line-associated blood stream infections--United States, 2001, 2008, and 2009. *MMWR Morb Mortal Wkly Rep* 2011;60(8):243–8. [PubMed](#)
132. Centers for Disease Control and Prevention (CDC). Vital signs: preventing *Clostridium difficile* infections. *MMWR Morb Mortal Wkly Rep* 2012;61(9):157–62. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6109a3.htm>
133. Centers for Disease Control and Prevention (CDC). Vital signs: carbapenem-resistant Enterobacteriaceae. *MMWR Morb Mortal Wkly Rep* 2013;62(9):165–70. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6209a3.htm>
134. Chitnis AS, Edwards JR, Ricks PM, Sievert DM, Fridkin SK, Gould CV. Device-associated infection rates, device utilization, and antimicrobial resistance in long-term acute care hospitals reporting to the National Healthcare Safety Network, 2010. *Infect Control Hosp Epidemiol* 2012;33(10):993–1000. [DOI](#)
135. Choudhuri JA, Pergamit RF, Chan JD, Schreuder AB, McNamara E, Lynch JB, Dellit TH. An electronic catheter-associated urinary tract infection surveillance tool. *Infect Control Hosp Epidemiol* 2011;32(8):757–62. [DOI](#)
136. Coello R, Gastmeier P, de Boer AS. Surveillance of hospital-acquired infection in England, Germany, and The Netherlands: will international comparison of rates be possible. *Infect Control Hosp Epidemiol* 2001;22(6):393–7. [DOI](#)
137. Cuellar LE, Fernandez-Maldonado E, Rosenthal VD, Castaneda-Sabogal A, Rosales R, Mayorga-Espichan MJ, Camacho-Cosavalente LA, Castillo-Bravo LI. Device-associated infection rates and mortality in intensive care units of Peruvian hospitals: findings of the International Nosocomial Infection Control Consortium. *Rev Panam Salud Publica* 2008;24(1):16–24. [DOI](#)
138. D Dias C, Gonçalves M, João A. Epidemiological study of hospital-acquired bacterial conjunctivitis in a level III neonatal unit. *ScientificWorldJournal* 2013. 2013;163582. [DOI](#)
139. Digiorgio MJ, Fatica C, Oden M, Bolwell B, Sekeres M, Kalaycio M, Akins P, Shane C, Bako J, Gordon SM, Fraser TG. Development of a modified surveillance definition of central line-associated bloodstream infections for patients with hematologic malignancies. *Infect Control Hosp Epidemiol* 2012;33(9):865–8. [DOI](#)
140. Djuric O, Markovic-Denic L, Jovanovic B, Bumbasirevic V. Agreement between CDC/NHSN surveillance definitions and ECDC criteria in diagnosis of healthcare-associated infections in Serbian trauma patients. *PLoS one* 2018;13(10):e0204893. [DOI](#)
141. Edwards JR, Peterson KD, Andrus ML, Tolson JS, Goulding JS, Dudeck MA, Mincey RB, Pollock DA, Horan TC, NHSN Facilities. National Healthcare Safety Network (NHSN) Report, data summary for 2006, issued June 2007. *Am J Infect Control* 2007;35(5):290–301. [DOI](#)



142. Edwards JR, Pollock DA, Kupronis BA, Li W, Tolson JS, Peterson KD, Mincey RB, Horan TC. Making use of electronic data: the National Healthcare Safety Network eSurveillance Initiative. *Am J Infect Control* 2008;36(3 Suppl):S21–6. [DOI](#)
143. Fakh MG, Gould CV, Trautner BW, Meddings J, Olmsted RN, Krein SL, Saint S. Beyond Infection: Device Utilization Ratio as a Performance Measure for Urinary Catheter Harm. *Infect Control Hosp Epidemiol* 2016;37(3):327–33. [DOI](#)
144. Finkelstein R, Rabino G, Mashiach T, Bar-El Y, Adler Z, Kertzman V, Cohen O, Milo S. Effect of preoperative antibiotic prophylaxis on surgical site infections complicating cardiac surgery. *Infect Control Hosp Epidemiol* 2014;35(1):69–74. [DOI](#)
145. Forrester L, Collet JC, Mitchell R, Pelude L, Henderson E, Vayalunkal J, Leduc S, Ghahreman S, Weir C, Gravel D, CNISP Data Quality Working Group, CNISP participating sites. How reliable are national surveillance data? Findings from an audit of Canadian methicillin-resistant *Staphylococcus aureus* surveillance data. *Am J Infect Control* 2012; 40(2):02–7. [DOI](#)
146. Fortin E, Quach C, Fontela PS, Buckeridge DL, Platt RW. A Simulation Study to Assess Indicators of Antimicrobial Use as Predictors of Resistance: Does It Matter Which Indicator Is Used?. *PLoS one* 2015;10(12):e0145761. [DOI](#)
147. Fraser TG, Gordon SM. CLABSI rates in immunocompromised patients: a valuable patient centered outcome?. *Clin Infect Dis* 2011;52(12):1446–50. [DOI](#)
148. Furuya EY, Dick A, Perencevich EN, Pogorzelska M, Goldmann D, Stone PW. Central line bundle implementation in US intensive care units and impact on bloodstream infections. *PLoS one* 2011;6(1):e15452. [DOI](#)
149. Furuya EY, Dick AW, Herzig CTA, Pogorzelska-Maziarz M, Larson EL, Stone PW. Central Line-Associated Bloodstream Infection Reduction and Bundle Compliance in Intensive Care Units: A National Study. *Infect Control Hosp Epidemiol* 2016;37(7):805–10. [DOI](#)
150. Gase KA, Haley VB, Xiong K, Antwerpen CV, Stricof RL. Comparison of 2 *Clostridium difficile* surveillance methods: National Healthcare Safety Network's laboratory-identified event reporting module versus clinical infection surveillance. *Infect Control Hosp Epidemiol* 2013;34(3):284–90. [DOI](#)
151. Gaur AH, Bundy DG, Werner EJ, Hord JD, Miller MR, Tang L, Lawlor JP, Billett AL, Children's Hospital Association Childhood Cancer & Blood Disorders Network (CCBDN). A Prospective, Holistic, Multicenter Approach to Tracking and Understanding Bloodstream Infections in Pediatric Hematology-Oncology Patients. *Infect Control Hosp Epidemiol* 2017;38(6):690–696. [DOI](#)
152. Gaur A, Miller M, Gao C, Rosenberg C, Morrell G, Coffin S, Huskins W. Evaluating application of the National Healthcare Safety Network central line-associated bloodstream infection surveillance definition: a survey of pediatric intensive care and hematology/oncology units. *Infect Control Hosp Epidemiol* 2013;34(7):663–70. [DOI](#)
153. Gerber J S, Ross R, Szymczak J, Xiao R, Localio A, Grundmeier R, Rettig S, Teszner E, Canning D, Coffin S. Infections after pediatric ambulatory surgery: Incidence and risk factors. *Infect Control Hosp Epidemiol* 2019;40(2): 150–157. [DOI](#)
154. Gubbels S, Nielsen J, Voldstedlund M, Kristensen B, Schönheyder H, Ellermann-Eriksen S, Engberg J, Møller J, Østergaard C, Mølbak K. National Automated Surveillance of Hospital-Acquired Bacteremia in Denmark Using a Computer Algorithm. *Infect Control Hosp Epidemiol* 2017;38(5): 559–566. [DOI](#)
155. Haley B, Antwerpen C, Tserenpuntsag B, Gase K, Hazamy P, Doughty D, Tsivitis M, Stricof R. Use of administrative data in efficient auditing of hospital-acquired surgical site infections, New York State 2009-2010. *Infect Control Hosp Epidemiol* 2012;33(6):565–71. [DOI](#)
156. Harvey A, Basavaraju S, Chung KW, Kuehnert M. Transfusion-related adverse reactions reported to the National Healthcare Safety Network Hemovigilance Module, United States, 2010 to 2012. *Transfusion* 2015;55(4):709–18. [DOI](#)
157. Hazamy A, Antwerpen C, Tserenpuntsag B, Haley B, Tsivitis M, Doughty D, Gase K, Tucci V, Stricof R. Trends in validity of central line-associated bloodstream infection surveillance data, New York State, 2007-2010. *Am J Infect Control* 2013;41(12):1200–4. [DOI](#)
158. Hebden JN, Anttila A, Allen-Bridson K, Morrell G, Wright MO, Horan T. Healthcare-associated infections studies project: an American Journal of Infection Control and National Healthcare Safety Network data quality collaboration. *Am J Infect Control* 2013;41(10):916–7. [DOI](#)
159. Hidron I, Edwards J, Patel J, Horan T, Sievert D, Pollock D, Fridkin S. NHSN annual update: antimicrobial-resistant pathogens associated with healthcare-associated infections: annual summary of data reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2006-2007. *Infect Control Hosp Epidemiol* 2008;29(11):996–1011. [DOI](#)
160. Hollenbeck L, McGuire K, White A, Yassa D, Wright S. Invasiveness Index as a Predictor of Surgical Site Infection after Spinal Fusion, Revision Fusion, or Laminectomy. *Infect Control Hosp Epidemiol* 2017;38(1):11–17. [DOI](#)
161. Hong AL, Sawyer M, Shore A, Winters B, Masuga M, Lee H, Mathews S, Weeks K, Goeschel C, Berenholtz S, Pronovost P, Lubomski L. Decreasing central-line-associated bloodstream infections in Connecticut intensive care units. *J Healthc Qual* 2013;35(5):78–87. [DOI](#)
162. Horan TC, M Andrus, and MA Dudeck. CDC/NHSN surveillance definition of health care-associated infection and criteria for specific types of infections in the acute care setting. *Am J Infect Control* 2008;36(5):309–32. [DOI](#)
163. Hota B, Malpiedi P, Fridkin S, Martin J, Trick W. Probabilistic Measurement of Central Line-Associated Bloodstream Infections. *Infect Control Hosp Epidemiol* 2016;37(2):149–55. [DOI](#)



164. Hsueh R, Kao C, Lee CN, Chen LK, Ho MS, Sia C, Fang X, Lynn S, Chang T, Liu S, Walfield A, Wang C. SARS antibody test for serosurveillance. *Emerg Infect Dis* 2004;10(9):1558–62. [DOI](#)
165. Kapadia H, Zhou P, Jauregui J, Mont M. Does Preadmission Cutaneous Chlorhexidine Preparation Reduce Surgical Site Infections After Total Hip Arthroplasty? *Clin Orthop Relat Res* 2016;474(7):1592–8. [DOI](#)
166. Wang Z, Zheng J, Zhao Y, Xiang Y, Chen X, Zhao F, Jin Y. Does Preadmission Cutaneous Chlorhexidine Preparation Reduce Surgical Site Infections After Total Knee Arthroplasty? *Medicine (Baltimore)* 2017;96(47):e8321. [DOI](#)
167. Keller C, Linkin D, Fishman N, Lautenbach E. Variations in identification of healthcare-associated infections. *Infect Control Hosp Epidemiol* 2013 Jul; 34(7): 678–686. [DOI](#)
168. Klevens M, Edwards J, Andrus M, Peterson K, Dudeck M, Horan T. Dialysis Surveillance Report: National Healthcare Safety Network (NHSN)-data summary for 2006. *Semin Dial* 2008 Jan-Feb;21(1):24–8. [DOI](#)
169. Klevens R, Tokars J, Andrus M. Electronic reporting of infections associated with hemodialysis. *Nephrol News Issues* 2005;19(7):37–8,43. [PubMed](#)
170. Kumar S, Sen P, Gaiind R, Verma P, Gupta P, Suri P, Nagpa S, Rai A. Prospective surveillance of device-associated health care-associated infection in an intensive care unit of a tertiary care hospital in New Delhi, India. *Am J Infect Control* 2018;46(2):202–206. [DOI](#)
171. Leblebicioglu H, Erben N, Rosenthal V, AlperSener A, Uzun C, eSenol G, fErsoz G, Demirdal T, Duygu F, Willke A, Sirmatel F, Oztoprak N, Koksall I, Güçlü E, Turgut H, Yalcin A, Ozdemir D, Kendirli T, Aslan T, Esen S, Ulger F, Dilek A, Yilmaz H, Sunbul M, Ozgunes I, Usluer G, Otkun M, Kaya A, Kuyucu N, Kaya Z, Meric M, Azak E, Yılmaz G, Kaya S, Ulusoy H, Haznedaroglu T, Gorenek L, Acar A, Tutuncu E, Karabay O, Kaya G, Sacar S, Sungurtekin H, Uğurcan D, Turhan O, Kaya S, Gumus E, Dursun O, Geyik M, Şahin A, Erdogan S, Ince E, Karbuza, Çiftçi E, Taşyapar N, Güneş M. Surgical site infection rates in 16 cities in Turkey: findings of the International Nosocomial Infection Control Consortium (INICC). *Am J Infect Control* 2015 Jan;43(1):48–52. [DOI](#)
172. Lower HL, Eriksen H, Aavitsland P, Skjeldestad F. Methodology of the Norwegian Surveillance System for Healthcare-Associated Infections: the value of a mandatory system, automated data collection, and active postdischarge surveillance. *Am J Infect Control* 2013;41(7):591–6. [DOI](#)
173. Lyman M, Shugart A, Gruhler H, Lines C, Patel P. Risk of Vascular Access Infection Associated With Buttonhole Cannulation of Fistulas: Data From the National Healthcare Safety Network. *Am J Kidney Dis* 2020;76(1):82–89. [DOI](#)
174. Mannien J, Zeeuw AE, Wille JC. Validation of surgical site infection surveillance in the Netherlands. *Infect Control Hosp Epidemiol* 2007;28(1):36–41. [DOI](#)
175. Mannien J, Kasteren M, Nagelkerke N, Gyssens I, Kullberg B, Wille J, Boer A. Effect of optimized antibiotic prophylaxis on the incidence of surgical site infection. *Infect Control Hosp Epidemiol* 2006;27(12):1340–6. [DOI](#)
176. Mayer L, Haley V, Giardina R, Hazamy P, Tsivitis M, Knab R, Lutterloh E. Lessons learned from initial reporting of carbapenem-resistant Enterobacteriaceae in New York State hospitals, 2013-2014. *Am J Infect Control* 2016;44(2):131–3. [DOI](#)
177. McMullen M, Boyer A, Schoenberg N, Babcock H, Micek S, Kollef M. Surveillance versus clinical adjudication: differences persist with new ventilator-associated event definition. *Am J Infect Control* 2015;43(6):589–91. [DOI](#)
178. Meddings J, Reichert H, McMahon Jr. Challenges and proposed improvements for reviewing symptoms and catheter use to identify National Healthcare Safety Network catheter-associated urinary tract infections. *Am J Infect Control* 2014;42(10 Suppl):S236–41. [DOI](#)
179. Mitt P, Lang K, Peri A, Maimets M. Surgical-site infections following cesarean section in an Estonian university hospital: postdischarge surveillance and analysis of risk factors. *Infect Control Hosp Epidemiol* 2005;26(5):449–54. [DOI](#)
180. Mu Y, Edwards J, Horan T, Berrios-Torres S, Fridkin S. Improving risk-adjusted measures of surgical site infection for the national healthcare safety network. *Infect Control Hosp Epidemiol* 2011;32(10):970–86. [DOI](#)
181. Muilwijk J, Hof S, Wille J. Associations between surgical site infection risk and hospital operation volume and surgeon operation volume among hospitals in the Dutch nosocomial infection surveillance network. *Infect Control Hosp Epidemiol* 2007;28(5):557–63. [DOI](#)
182. Mulvey R, Boyd D, Gravel D, Hutchinson J, Kelly S, McGeer A, Moore D, Simor A, Suh K, Taylor G, Weese J, Miller M. Hypervirulent *Clostridium difficile* strains in hospitalized patients, Canada. *Emerg Infect Dis* 2010;16(4):678–81. [DOI](#)
183. Neelakanta A, Sharma S, Kesani V, Salim M, Pervaiz A, Aftab N, Mann T, Tashtoush N, Karino S, Dhar S, Kaye K. Impact of changes in the NHSN catheter-associated urinary tract infection (CAUTI) surveillance criteria on the frequency and epidemiology of CAUTI in intensive care units (ICUs). *Infect Control Hosp Epidemiol* 2015;36(3):346–9. [DOI](#)
184. Palms L, Mungai E, Eure T, Anttila A, Thompson N, Dudeck M, Edwards J, Bell J, Stone N. The National Healthcare Safety Network Long-term Care Facility Component early reporting experience: January 2013-December 2015. *Am J Infect Control* 2018;46(6):637–642. [DOI](#)
185. Patel R, Shugart A, Mbaeyi C, Sauer A, Melville A, Nguyen D, Kallen A. Dialysis Event Surveillance Report: National Healthcare Safety Network data summary, January 2007 through April 2011. *Am J Infect Control* 2016;44(8):944–7. [DOI](#)



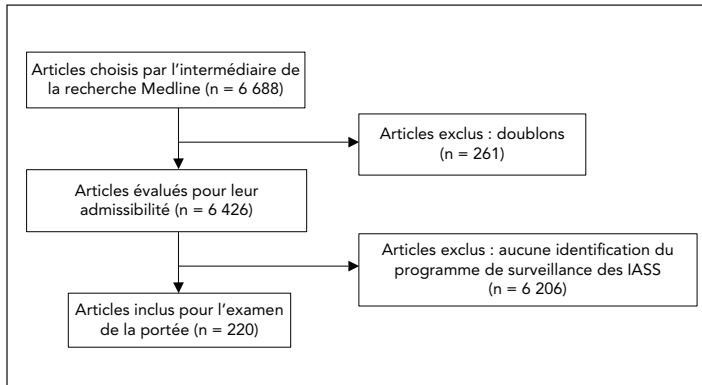
186. Perlin B, Hickok J, Septimus E, Moody J, Englebright J, Bracken R. A bundled approach to reduce methicillin-resistant *Staphylococcus aureus* infections in a system of community hospitals. *J Healthc Qual* 2013;35(3):57–68; quiz 68–9. DOI
187. Piriypatsom A, Lin H, Pirrone M, Pascale G, Lapuerta J, Bittner E, Schmidt U, Moya M, Berra L. Evaluation of the Infection-Related Ventilator-Associated Events Algorithm for Ventilator-Associated Pneumonia Surveillance in a Trauma Population. *Respir Care* 2016;61(3):269–76. DOI
188. Puckett K, Allen-Bridson K, Godfrey D, Gross C, Hebden J, Powell L, Wright M. Health care-associated infections studies project: An American Journal of Infection Control and National Healthcare Safety Network data quality collaboration case study: Bloodstream infection-patient injection into vascular access 2018. *Am J Infect Control* 2019;47(5):574–576. DOI
189. Ramirez-Wong M, Atencio-Espinoza T, Rosenthal V, Ramirez E, Torres-Zegarra S, Tavera S, López F, Astete N, Guevara F, Mendoza C, Ramírez A, Pastrana J. Surgical Site Infections Rates in More Than 13,000 Surgical Procedures in Three Cities in Peru: Findings of the International Nosocomial Infection Control Consortium. *Surg Infect (Larchmt)* 2015;16(5):572–6. DOI
190. Reyes M, Munigala S, Church E, Kulik T, Keyrouz S, Zipfel G, Warren D. Comparing External Ventricular Drains-Related Ventriculitis Surveillance Definitions. *Infect Control Hosp Epidemiol* 2017;38(5): 574–579. DOI
191. Ridgway P, Sun X, Tabak Y, Johannes R, Robicsek R. Performance characteristics and associated outcomes for an automated surveillance tool for bloodstream infection. *Am J Infect Control* 2016;44(5):567–71. DOI
192. Rosenthal D. International Nosocomial Infection Control Consortium (INICC) resources: INICC multidimensional approach and INICC surveillance online system. *Am J Infect Control* 2016;44(6):e81–90. DOI
193. Rosenthal D, Desse J, Maurizi D, Chaparro G, Orellano P, Chediack V, Cabrera R, Golschmid D, Silva C, Vimercati J, Stagnaro J, Perez I, Spadaro M, Montanini A, Pedersen D, Panicia T, Aguilera A, Cermesoni R, Mele J, Alda E, Paldoro A, Ortta A, Cooke B, García M, Obed M, Domínguez C, Saúl P, Valle M, Bianchi A, Alvarez G, Pérez R, Oyola C. Impact of the International Nosocomial Infection Control Consortium (INICC)'s Multidimensional Approach on Rates of Central Line-Associated Bloodstream Infection in 14 Intensive Care Units in 11 Hospitals of 5 Cities in Argentina. *Infect Control Hosp Epidemiol* 2018;39(4):445–451. DOI
194. Rosenthal D, Duszynska W, Ider B, Gurskis V, Al-Ruzzieh M, Myatra S, Gupta D, Belkebir S, Upadhyay N, Zand F, Todi S, Kharbada M, Nair P, Mishra S, Chaparro G, Mehta Y, Zala D, Janc J, Aguirre-Avalos G, Aguilar-De-Morós D, Hernandez-ChenaB, Gün E, Oztoprak-Cuvalci N, Yildizdas D, Abdelhalim M, Ozturk-Deniz S, Gan C, Hung N, Joudi H, Omar A, Gikas A, El-Kholy A, Barkat A, Koirala A, Cerero-Gudiño A, Bouziri A, Gomez-Nieto K, Fisher D, Medeiros E, Salgado-Yepey E, Horhat F, Agha H, Vimercati J, VillanuevaV, Jayatilleke K, Nguyet L, Raka L, Miranda-Novalés M, Petrov M, Apisarnthanarak A, Tayyab N, Elahi N, Mejia N, Morfin-Otero R, Al-Khawaja S, Anguseva T, Gupta U, Belskii V, Mat W, Chapeta-Parada E, Guancho-Garcell H, Barahona-Guzmán N, Mathew A, Raja K, Pattnaik S, Pandya N, Poojary A, Chawla R, Mahfouz T, Kanj S, Mioljevic V, Hlinkova S, Mrazova M, Al-Abdely H, Guclu E, Ozgultekin A, Baytas V, Tekin R, Yalçın A, Erben N. International Nosocomial Infection Control Consortium (INICC) report, data summary of 43 countries for 2007–2012. Device-associated module. *Am J Infect Control* 2021;49(10):1267–1274. DOI
195. Rosenthal D, Richtmann R, Singh S, Apisarnthanarak A, Kübler A, Viet-Hung N, Ramirez-Wong F, Portillo-Gallo J, Toscani J, Gikas A, Dueñas L, El-Kholy S, Ghazal S, Fisher D, Mitrev Z, Gamar-Elanbya M, Kanj S, Arreza-Galapia Y, Leblebicioglu H, Hlinková S, Memon B, Guancho-Garcell H, Gurskis V, Alvarez-Moreno C, Barkat A, Mejía N, Rojas-Bonilla M, Ristic G, Raka L, Yuet-Meng C. Surgical site infections, International Nosocomial Infection Control Consortium (INICC) report, data summary of 30 countries, 2005–2010. *Infect Control Hosp Epidemiol* 2013;34(6): 597–604. DOI
196. Rosenthal D, Rodríguez-Calderón M, Rodríguez-Ferrer M, Singhal T, Pawar M, Sobreya-Oropeza M, Barkat A, Atencio-Espinoza T, Berba R, Navoa-Ng J, Dueñas L, Ben-Jaballah N, Ozdemir D, Ersoz G, Aygun C. Findings of the International Nosocomial Infection Control Consortium (INICC), Part II: Impact of a multidimensional strategy to reduce ventilator-associated pneumonia in neonatal intensive care units in 10 developing countries. *Infect Control Hosp Epidemiol* 2012;33(7):704–10. DOI
197. Rossello-Urgell J, Vaqué-Rafart J, Hermsilla-Pérez E, Allepuz-Palau A. An approach to the study of potentially preventable nosocomial infections. *Infect Control Hosp Epidemiol* 2004;25(1):41–6. DOI
198. Roth R, Mitchell R, Vachon J, Alexandre S, Amaratunga K, Smith S, Vearncombe M, Davis I, Mertz D, Henderson E, John M, Johnston L, Lemieux C, Pelude L, Gravel D. Periprosthetic Infection following Primary Hip and Knee Arthroplasty: The Impact of Limiting the Postoperative Surveillance Period. *Infect Control Hosp Epidemiol* 38(2): 1–7. DOI
199. Roubelaki M, Kritsotakis E, Tsioutis C, Tzilepi P, Gikas A. Surveillance of surgical site infections at a tertiary care hospital in Greece: incidence, risk factors, microbiology, and impact. *Am J Infect Control* 2008;36(10):732–8. DOI



200. See I, Chang J, Gualandi N, Buser G, Rohrbach P, Smeltz D, Bellush M, Coffin S, Gould J, Hess D, Hennessey P, Hubbard S, Kiernan A, O'Donnell J, Pegues D, Miller J, Magill S. Clinical Correlates of Surveillance Events Detected by National Healthcare Safety Network Pneumonia and Lower Respiratory Infection Definitions-Pennsylvania, 2011-2012. *Infect Control Hosp Epidemiol* 2016;37(7):818-24. DOI
201. See I, Iwamoto M, Allen-Bridson K, Horan T, Magill S, Thompson N. Mucosal barrier injury laboratory-confirmed bloodstream infection: results from a field test of a new National Healthcare Safety Network definition. *Infect Control Hosp Epidemiol* 2013;34(8):769-76. DOI
202. Shree R, Park S, Beigi R, Dunn S, Krans E. Surgical Site Infection following Cesarean Delivery: Patient, Provider, and Procedure-Specific Risk Factors. *Am J Perinatol* 2016;33(2):157-164. DOI
203. Slayton B, Scott R, Baggs J, Lessa F, McDonald L, Jernigan J. The cost-benefit of federal investment in preventing *Clostridium difficile* infections through the use of a multifaceted infection control and antimicrobial stewardship program. *Infect Control Hosp Epidemiol* 2015;36(6):681-7. DOI
204. Stack M, Gold H, Wright S, Baldini L, Snyder G. Perioperative antimicrobial prophylaxis and prevention of hepatobiliary surgical site infections. *Infect Control Hosp Epidemiol* 2018;39(9):1037-1041. DOI
205. Steinberg P, Robichaux C, Tejedor S, Reyes M, Jacob J. Distribution of pathogens in central line-associated bloodstream infections among patients with and without neutropenia following chemotherapy: evidence for a proposed modification to the current surveillance definition. *Infect Control Hosp Epidemiol* 2013;34(2):171-5. DOI
206. Steurbaut K, Colpaert K, Gadeyne B, Depuydt P, Vosters P, Danneels C, Benoit D, Decruyenaere J, Turck F. COSARA: integrated service platform for infection surveillance and antibiotic management in the ICU. *J Med Syst* 2012;36(6):3765-75. DOI
207. Stevenson B, Khan Y, Dickman J, Gillenwater T, Kulich P, Myers C, Taylor D, Santangelo J, Lundy J, Jarjoura D, Li X, Shook J, Mangino J. Administrative coding data, compared with CDC/NHSN criteria, are poor indicators of health care-associated infections. *Am J Infect Control* 2008;36(3):155-64. DOI
208. Streefkerk A, Lede I, Eriksson J, Meijling M, Hoeven C, Wille J, Hopmans T, Friedrich A, Verbrugh H, Naiemi N. Internal and External Validation of a Computer-Assisted Surveillance System for Hospital-Acquired Infections in a 754-Bed General Hospital in the Netherlands. *Infect Control Hosp Epidemiol* 2016;37(11):1355-1360. DOI
209. Svoboda T, Henry B, Shulman L, Kennedy E, Rea E, Ng W, Wallington T, Yaffe B, Gournis E, Vicencio E, Basur S, Glazier R. Public health measures to control the spread of the severe acute respiratory syndrome during the outbreak in Toronto. *N Engl J Med* 2004;350(23):2352-61. DOI
210. Tandan M, Burns K, Murphy H, Hennessy S, Cormican M, Vellinga A. Improving Antimicrobial Prescribing: A Multinomial Model Identifying Factors Associated With First- and Second-Line Prescribing. *J Am Med Dir Assoc* 2019;20(5):624-628. DOI
211. Thompson L, Makvandi M, Baumbach J. Validation of central line-associated bloodstream infection data in a voluntary reporting state: New Mexico. *Am J Infect Control* 2013;41(2):122-5. DOI
212. Thompson D, Edwardstat J, Bamberg W, Beldavs Z, Dumyati G, Godine D, Maloney M, Kainer M, Ray S, Thompson D, Wilson L, Magill S. Evaluating the accuracy of sampling to estimate central line-days: simplification of the National Healthcare Safety Network surveillance methods. *Infect Control Hosp Epidemiol* 34(3):221-8. DOI
213. Tokars I, Richards C, Andrus M, Klevens M, Curtis A, Horan T, Jernigan J, Cardo D. The changing face of surveillance for health care-associated infections. *Clin Infect Dis* 2004;39(9):1347-52. DOI
214. Tserenpuntsag B, Haley V, Antwerpen C, Doughty D, Gase K, Hazamy P, Tsivitis M. Surgical site infection risk factors identified for patients undergoing colon procedures, New York State 2009-2010. *Infect Control Hosp Epidemiol* 2014;35(8):1006-12. DOI
215. West N, and Eng T. Monitoring and reporting hospital-acquired conditions: a federalist approach. Medicare & medicaid research review, 2014. 4(4). Medicare Medicaid Res Rev 2015;4(4):mmrr2014-004-04-a04. DOI
216. Wise M, and Lovell C. Public health surveillance in the dialysis setting: opportunities and challenges for using electronic health records. *Semin Dial* 2013;26(4):399-406. DOI
217. Worth L, Brett J, Bull A, McBryde E, Russo P, Richards M. Impact of revising the National Nosocomial Infection Surveillance System definition for catheter-related bloodstream infection in ICU: reproducibility of the National Healthcare Safety Network case definition in an Australian cohort of infection control professionals. *Am J Infect Control* 2009;37(8):643-8. DOI
218. Wright O, Decker S, Allen-Bridson K, Hebden J, Leaprot D. Healthcare-associated infections studies project: An American Journal of Infection Control and National Healthcare Safety Network data quality collaboration: Location mapping. *Am J Infect Control* 2018;46(5):577-578. DOI
219. Yi H, Perkins K, Kazakova S, Hatfield K, Kleinbaum D, Baggs J, Slayton R, Jernigan J. Surgical site infection risk following cesarean deliveries covered by Medicaid or private insurance. *Infect Control Hosp Epidemiol* 2019;40(6):639-648. DOI
220. Zachariah P, Reagan J, Furuya E, Dick A, Liu H, Herzig C, Pogorzelska-Maziarz M, Stone P, Saiman L. The association of state legal mandates for data submission of central line-associated bloodstream infections in neonatal intensive care units with process and outcome measures. *Infect Control Hosp Epidemiol* 2014;35(9):1133-9. DOI



Figure S1 : Organigramme de l'examen de la portée



Abréviation : IASS, infections associées aux soins de santé

Tableau S2 : Nombre d'articles trouvés par pays

Pays	Nombre d'articles choisis
Australie	11
Autriche	4
Belgique	3
Canada	5
Croatie	0
Chypre	0
République tchèque	0
Danemark	2
ECDC	5
Angleterre	6
Estonie	1
Finlande	2
France	5
Allemagne	31
Grèce	3
Hongrie	1
Islande	0
Irlande	11
Italie	13
Lettonie	0
Lituanie	0
Luxembourg	0
Malte	0
Pays-Bas	10
Norvège	5
Pologne	1
Portugal	0
Slovaquie	1
Slovénie	0
Espagne	15
Suède	3
Royaume-Uni-Irlande du Nord	1
Royaume-Uni-Pays de Galles	0
Royaume-Uni-Écosse	0
États-Unis	106
Total	245

Abréviation : ECDC, Centre européen de prévention et de contrôle des maladies



Tableau S3 : Nombre d'hôpitaux participants pour quatre programmes de surveillance de HAI-NET, le Centre européen de prévention et de contrôle des maladies

Pays	ICD ^a		ISO ^b		USI ^b	EPP ^c		Nombre d'hôpitaux dans le pays en 2011
	Nombre d'hôpitaux participants	%	Nombre d'hôpitaux participants	%	Nombre d'USI participantes	Nombre d'hôpitaux participants	%	
Autriche	1	1	32	17	-	9		189
Belgique	129	66	-	-	8	52	27	194
Bulgarie ^d	-	-	-	-	-	42	17	241
Croatie	26	43	-	-	-	11	18	60
Chypre	-	-	-	-	-	8	100	8
République tchèque	19	12	-	-	-	14	9	158
Danemark	-	-	-	-	-	3	6	52
Estonie	4	10	2	5	4	4	10	40
Finlande	13	22	12	20	-	59	100	59
France	203	13	339	22	199	54	3	1 558
Allemagne	-	-	541	3	838	46	3	1 736
Grèce	2	1	-	-	-	37	27	137
Hongrie	58	54	33	31	9	29	27	108
Islande	-	-	-	-	-	2	25	8
Irlande	1	2	-	-	-	50	83	60
Italie	2	0	94	9	104 ^e	49	5	1 023
Lettonie	1	6	-	-	-	15	88	17
Lituanie	3	3	23	25	36	44	48	92
Luxembourg	-	-	-	-	10	9	100	9
Malte	1	33	-	-	1	3	100	3
Pays-Bas	1	1	80	83	-	33	34	96
Norvège	-	-	61	102	-	7	12	60
Pologne	46	6	-	-	-	35	4	795
Portugal	-	-	51	5	43	57	56	101
Roumanie ^d	-	-	-	-	10	10	3	311
Slovaquie	36	32	5	4	8	40	36	112
Slovénie	3	14	-	-	-	21	100	21
Espagne	4	1	-	-	188	59	11	550
Suède	-	-	-	-	-	4	5	80
Royaume-Uni-Angleterre	-	-	316	125	-	51	20	253
Royaume-Uni-Irlande du Nord	-	-	10	63	-	16	100	16
Royaume-Uni-Écosse	3	6	-	-	22	52	100	52
Royaume-Uni-Pays de Galles	-	-	12	13	-	22	25	89
Europe	556	7	1 611	19	1 460	947	11	8 288

Abréviations : HAI-NET, Healthcare Associated Infections Surveillance Network; EPP, enquête de prévalence ponctuelle; GiVITI, Gruppo italiano per la Valutazione degli interventi in Terapia intensiva; ICD, infections à *Clostridoides difficile*; ISC, infections au site chirurgical; SPIN-UTI, Italian Nosocomial Infections Surveillance in Intensive Care Units; USI, unité de soins intensifs

^a Rapport de 2016

^b Rapport de 2017

^c Rapport de 2011-2012

^d Même si la Bulgarie et la Roumanie ne sont pas considérées comme des pays à revenu élevé, elles sont restées dans la liste pendant leur participation au programme de l'ECDC

^e GiVITI et SPIN-UTI ensemble



Tableau S4 : Infections recensées dans les programmes nationaux de surveillance, 37 pays, 2021 (suite)

Programme	Pays	Infection	Obligatoire – volontaire	Incidence – prévalence	Fréquence des signalements au		Fréquence des signalements	Nombre d'hôpitaux participants ^a		Nombre total d'hôpitaux dans le pays ^a
					Ministère	Publique		N	%	
Océanie										
ACSQHC ^b	Australie	ICD	V	I	Mensuellement, trimestriellement ou annuellement	Annuelle, trimestrielle	Oui	-	-	693 publics et 657 privés
		ISO	O, V	I	-	Annuelle, trimestrielle	Oui	-	-	
		Infection sanguine ^c	O	I	-	Annuelle, trimestrielle	-	-	-	
		Infections liées aux cathéters intravasculaires centraux (CIC)	O, V	I	-	Annuelle, trimestrielle	-	-	-	
ANZICS ^b		Infections liées aux CIC	O, V	-	Mensuelle	Annuelle	Oui	-	-	
AIHW		Infection sanguine ^c	O	-	Annuelle	-	Oui	> 700 publics et 183 privés	100 publics, 27,9 privés	
AGAR		MRA ^d (ERV, SARM, SASM, EPC ^e , Gram négatif)	-	P	-	Annuelle	-	38 laboratoires	-	-
Amérique du Nord										
PC SIN	Canada	ICD	V	I	Annuelle	Annuelle	Oui	68	11,0	620
		ERV, SARM	V	I	Annuelle	Annuelle	Oui	62	10,0	
		EPC	V	I	Annuelle	Annuelle	Oui	59	9,5	
		MRA	V	I	Annuelle	Annuelle	Oui	65	10,5	
		Infections liées aux CIC, ISO, C. auris, DLFC	V	I	Annuelle	Annuelle	Oui	-	-	
EPP	V	P	Annuelle	Annuelle	-	-	-	-		
NHSN	États-Unis	ERV, SARM, SASM, ICD, ECP, Infections liées aux CIC, ISO, IVU, ventilation ^f , MRA	V	I	Mensuelle	Annuelle	Oui	3 889	63,3	6 146
Europe										
ANISS	Autriche	ISO	V	I	-	Annuelle	Oui	53	28,0	189
		USI	V	I	-		-	46	24,3	
		EPP	V	P	-		-	47	24,9	
NSIH	Belgique	Infection sanguine	O	I	Trimestrielle	Annuelle	-	96	93,2	103
		ICD	V	I	Trimestrielle	Annuelle	-	87	84,5	
		ISO	V	I	Trimestrielle	Annuelle	-	63	61,2	
		Infections liées aux CIC ^g , IVU ^g	V	I	Trimestrielle	Annuelle	-	14	13,6	
		Ventilation ^{f,g}	O	I	-	Annuelle	-	-	-	
		SARM, Gram-ERV	O	I	-	Annuelle	-	-	-	
^h	Croatie	-	-	-	-	-	-	-	-	-
NRC-HAI ^b	République tchèque	ICD, ISO, USI	Inconnu	Inconnu	-	-	-	-	-	-
		EPP	Inconnu	P	-	-	-	-	-	-
HAIBA	Danemark	ICD, ISO, IVU, infection sanguine	Inconnu	I	Quotidienne ou mensuelle	Annuelle	-	-	-	32
DANMAP		AMR (ERV, SARM, ECP ^e)	O	P	-	-	-	10 (services de microbiologie clinique)	-	10 (services de microbiologie clinique)



Tableau S4 : Infections recensées dans les programmes nationaux de surveillance, 37 pays, 2021 (suite)

Programme	Pays	Infection	Obligatoire – volontaire	Incidence – prévalence	Fréquence des signalements au		Fréquence des signalements	Nombre d'hôpitaux participants ^a		Nombre total d'hôpitaux dans le pays ^a
					Ministère	Publique		N	%	
Europe (suite)										
HAI-NET	ECDC	ISO	V	I	À la fin de la période de surveillance	Annuelle	-	1 611	29,1	5 532
		ICD	V	I	À la fin de la période de surveillance	Annuelle	-	556	10,4	5 324
		USI	V	I	À la fin de la période de surveillance	Annuelle	-	589 USI	15,3	3 839
		EPP	V	P	-	Tous les 5 ans	-	947	11,4	8 288
SIRO ^b	Finlande	infection sanguine, ICD, ISO	O	I	À la fin de la période de surveillance	Annuelle	-	59	100	59
		EPP	V	P	-	-	-	De 50 à 59	De 84,7 à 100	
RAISIN-I	France	ISO	V	I	-	Annuelle	-	357	22,9	1 558
RAISIN-P		EPP	V	P	Une journée	Tous les 5 ans	-	1 533	98,4	
KISS ^b	Allemagne	ICD, MRA (ERV, Gram-)	V	I	Mensuelle	Annuelle	Oui	-	-	1 914
		IVU ⁹ , IVRI ⁹ , infection sanguine ⁹ , néonatalogie	V	I	Mensuelle	Annuelle	-	-	-	
		ISO	V	I	Trimestrielle	Annuelle	Oui	-	-	
		Ventilation ^f	V	I	-	Annuelle	Oui	-	-	
		SARM	V	I	Annuelle	Annuelle	Oui	-	-	
NNSR	Hongrie	MRA, IDC, infection sanguine, éclosion	O	I	-	Annuelle	-	169	100	169
		ISO, USI, néonatalogie	V	I	-	Annuelle	-	47	27,8	
		USI	V	I	-	Annuelle	-	34	20,1	
		Néonatalogie	V	I	-	Annuelle	-	10 unités de néonatalogie	-	
HPSC	Irlande	ICD	V	I	Trimestrielle	Trimestrielle/annuelle	Oui	56	93,3	60
		SARM ^d /SASM ^d	V	I	Trimestrielle	Trimestrielle/annuelle	-	-	-	
		EPP	O	P	-	Trimestrielle/annuelle	-	-	-	
		CPE ^e	O	I	Mensuelle	Trimestrielle/annuelle	-	-	-	
		ERV ^d , Gram- ^d	V	I	-	Trimestrielle/annuelle	-	-	-	
		Ventilation ^{f,g}	O	I	-	-	Oui	-	-	
SPIN-UTI	Italie	Infections liées aux CIC ⁹ , infection sanguine ⁹ , IVU ⁹ , ventilation ⁹	V	I	Annuelle	Tous les 2 ans	-	41 USI	-	1 023
GiViTi		Infections liées aux CIC ⁹ , infection sanguine ⁹ , ventilation ⁹	V	I	-	Annuelle	Non	230 USI	-	



Tableau S4 : Infections recensées dans les programmes nationaux de surveillance, 37 pays, 2021 (suite)

Programme	Pays	Infection	Obligatoire – volontaire	Incidence – prévalence	Fréquence des signalements au		Fréquence des signalements	Nombre d'hôpitaux participants ^a		Nombre total d'hôpitaux dans le pays ^a
					Ministère	Publique		N	%	
Europe (suite)										
-	Lituanie	USI	V	I	-	Annuelle	Oui	28	30,4	92
		ISO	V	I	-	Annuelle	Oui	27	29,3	
		EPP	O	I	-	-	Oui	95	100	
NOSIX ^b	Luxembourg	-	-	I	-	-	-	-	-	-
PREZIES ^b	Pays-Bas	Infections liées aux CIC, ISO	O	I	Annuelle (formulaire en ligne)	Annuelle	-	-	-	96
		Prévalence	V	P	Après la période d'étude (deux fois par année)	Annuelle	-	-	-	
SWAB		MRA (éclosion)	V	P	Mensuelle	Annuelle	-	38 hôpitaux (30 laboratoires)	39,6	
NOIS	Norvège	ISO	O	I	-	Annuelle	-	61	100	60
		EPP	V	P	Deux fois par année	-	-	-	-	
		IVU, infection sanguine	O	I	-	Annuelle	-	-	-	
		Néonatalogie, IVRI, ventilation ^f	Inconnu	I	-	-	-	-	-	
-	Pologne	Infection sanguine ^g , IVU ^g , ventilation ^g	V	I	Après la période d'étude	-	-	11	1,4	795
		EPP	V	P	Après la période d'étude	Annuelle	-	160	20,1	
PPCIRA	Portugal	ISO	V	I	-	-	-	54	53,5	101
		Infections liées aux CIC ^g , ventilation ^{f,g}	V	I	-	-	-	30	29,7	
		Infections liées aux CIC ^h , ventilation ^{f,h}	O	I	-	-	-	Tous	-	
EPIS ^b	Slovaquie	-	-	-	-	-	-	-	-	112
ENVIN	Espagne	Infections liées aux CIC ^g , infection sanguine ^g , IVU ^g , ventilation ^{f,g}	V	I	1 par trimestre par année	Annuelle	-	230	41,8	550
Neo-KissEs ^b		Infections liées aux CIC ^h , DLCR ^h	V	I	-	-	Oui	50	9,1	
EPINE		EPP	P	V	-	Annuelle	-	-	-	
INCLIMECC ^b		Infections liées aux CIC ^g , infection sanguine ^g , IVU ^g , ventilation ^{f,g}	O	I	Annuelle	-	-	-	-	
		EPP	O	P	Annuelle	-	-	-	-	
ISO, ECP ^g , ICD, SARM	O	I	Annuelle	-	-	-	-			
SALAR ^b	Suède	EPP	O	P	Deux fois par année	Deux fois par année	-	-	-	80
Royaume-Uni										
PHE	Angleterre	SARM ^d , SASM ^d , ICD, Gram-	O	I	Mensuelle	Mensuelle, annuelle	-	148	58,5	253
		ISO	O, V	I	Trimestrielle		Oui	195	77,1	



Tableau S4 : Infections recensées dans les programmes nationaux de surveillance, 37 pays, 2021 (suite)

Programme	Pays	Infection	Obligatoire – volontaire	Incidence – prévalence	Fréquence des signalements au		Fréquence des signalements	Nombre d'hôpitaux participants ^a		Nombre total d'hôpitaux dans le pays ^a
					Ministère	Publique		N	%	
Royaume-Uni (suite)										
-	Irlande du Nord	ISO	O	I	Trimestrielle	Trimestrielle	-	-	-	16
		SARM, ICD	O	I	-	Trimestrielle	-	Tous	-	
		EPP	V	P	-	Tous les 5 ans	-	-	-	
WHAIP	Pays de Galles	ICD	O	I	-	Semestrielle	-	77	98,7	78
		ISO, ventilation ^f	O	I	-	Annuelle	-	68	87,2	
		Infection sanguine	O	I	-	Semestrielle	-	78	100	
SSHAIP	Écosse	ICD	O	I	6 mois ou annuelle	Annuelle, mensuelle	-	Tous	100	89
		EPP	O	P	Annuelle		-			
		Infection sanguine ^g	O	I	Trimestrielle		-			
		USI	O	I	Mensuelle		Oui			
		EPC, IVU	Inconnu	I	-		Oui (OCP)	-	-	
		ISO	O, V	I	Trimestrielle		-	Tous	100	
		SARM ^h , Gram- ^d , Infections liées aux CIC ^g , ventilation ^{f,g} , écloison : norovirus	M	I	-		-			

Abréviations : ACSQHC, Australian Commission on Safety and Quality in Health Care; AGAR, Australian Group on Antimicrobial Resistance; AIHW, Australian Institute of Health and Welfare; ANISS, Austrian Nosocomial Infection Surveillance System; ANZICS, Australian And New Zealand Intensive Care Society; CEPCM, Centre européen de prévention et de contrôle des maladies; CLABSI, infection de la circulation sanguine associée à la ligne centrale; DANMAP, Danish Integrated Antimicrobial Resistance Monitoring and Research Programme; DLCR, dérivation du liquide céphalo-rachidien; ECDC, Centre européen de prévention et de contrôle des maladies; ENVIN, Estudio Nacional de Vigilancia de Infección Nosocomial en Servicios de Medicina Intensiva; EPINE, étude sur la prévalence des infections nosocomiales en Espagne; EPC, entérobactéries productrices de carbapénémase; EPIS, systèmes nationaux de surveillance épidémiologique; EPP, enquête de prévalence ponctuelle; EPV, événement provenant d'un ventilateur; ERC, entérobactéries résistantes aux carbapénèmes; ERV, entérocoques résistants à la vancomycine; GiViTi, Gruppo italiano per la Valutazione degli interventi in Terapia intensiva; HAIBA, Healthcare-Associated Infections Database; HAI-NET, Healthcare Associated Infections Surveillance Network; HPSC, Health Protection Surveillance Center; I, incidence; ICD, infection à *Clostridoides difficile*; INCLIMECC, Indicadores Clínicos de Mejora Continua de la Calidad; IRVI, infection respiratoire des voies inférieures; ISO, infection au site chirurgical; IVU, infection des voies urinaires; KISS, Système allemand de surveillance des infections nosocomiales; MRA, microorganismes résistants aux antimicrobiens; infection sanguine, infections sanguines; NEO-KISS, Neonatology-KISS; NNSR, National Nosocomial Surveillance System; NHSN, National Healthcare Safety Network; NOIS, surveillance system for hospital acquired infections; NOSIX, Luxembourg Nosocomial Infection Surveillance System; NRC-HAI, National Reference Center for Healthcare Associated Infections; NSIH, National Surveillance of Healthcare associated and antimicrobial resistance; O, obligatoire; OPC, organismes producteurs de carbapénémase; P, prévalence; PHE, Public Health England; PCSIN, Programme canadien de surveillance des infections nosocomiales; PPCIRA, Programa de Prevenção e Controlo de Infeções e de Resistência aos Antimicrobianos; PPV, pneumonie provenant d'un ventilateur; PREZIES, Prevention of Nosocomial Infection through Surveillance; RAISIN, Réseau d'Alerte, d'Investigation et de Surveillance des Infections Nosocomiales; SALAR, Swedish Association of Local Authorities and Regions; SARM, infections à la circulation sanguine *Staphylococcus aureus* résistant à la méthicilline; SASM, infection à la circulation sanguine du *Staphylococcus aureus* sensible à la méthicilline; SIRO, Finnish Hospital Infection Programme; SPIN-UTI, Italian Nosocomial Infections Surveillance in Intensive Care Units; SSHAIP, Scottish Surveillance of Healthcare Associated Infection Programme; SWAB, Dutch Working Party on Antibiotic Policy; UIC, unité de soins intensifs; V, volontaire; WHAIP, Welsh Healthcare Associated Infection Programme; - sans objet

^a Dernière version disponible

^b aucun rapport trouvé (protocole seulement)

^c *Staphylococcus aureus*

^d Sepsie

^e EPC, OPC ou ERC

^f PPV ou EPV

^g USI

^h Néonatalogie