**Supplementary File R1**

**References**

**41.** Parisi M, Gerovasili V, Dimopoulos S, et al. Use of Ventilator Bundle and Staff Education to Decrease Ventilator-Associated Pneumonia in Intensive Care Patients. *Crit Care Nurse* 2016;36:e1-e7.

**42.** Palomar M, Alvarez-Lerma F, Riera A, et al. Impact of a national multimodal intervention to prevent catheter-related bloodstream infection in the ICU: the Spanish experience. *Crit Care Med* 2013;41:2364-2372.

**43.** O'Neil C, Ball K, Wood H, et al. A Central Line Care Maintenance Bundle for the Prevention of Central Line-Associated Bloodstream Infection in Non-Intensive Care Unit Settings. *Infect Control Hosp Epidemiol* 2016;37:692-698.

**44.** Omrane R, Eid J, Perreault MM, et al. Impact of a protocol for prevention of ventilator-associated pneumonia. *Ann Pharmacother* 2007;41:1390-1396.

**45.** Ng W, Brown A, Alexander D, et al. A multifaceted prevention program to reduce infection after cesarean section: Interventions assessed using an intensive postdischarge surveillance system. *Am J Infect Control* 2015;43:805-809.

**46.** Navoa-Ng JA, Berba R, Rosenthal VD, et al. 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;6:389-399.

**47.** Narang S. Use of ventilator bundle to prevent ventilator associated pneumonia. *Oman med* 2008;23:96-99.

**48.** Morris AC, Hay AW, Swann DG, et al. Reducing ventilator-associated pneumonia in intensive care: impact of implementing a care bundle. *Crit Care Med* 2011;39:2218-2224.

**49.** Mohamed KAE. Compliance with VAP bundle implementation and its effectiveness on surgical and medical sub-population in adult ICU. *Egyptian Journal of Chest Diseases and Tuberculosis* 2014;63:9-14.

**50.** Mody L, Krein SL, Saint S, et al. A targeted infection prevention intervention in nursing home residents with indwelling devices a randomized clinical trial. *JAMA Intern Med* 2015;175:714-724.

**51.** Miyahara K, Matsuura A, Takemura H, Mizutani S, Saito S, Toyama M. Implementation of bundled interventions greatly decreases deep sternal wound infection following cardiovascular surgery. *J Thorac Cardiovasc Surg* 2014;148:2381-2388.

**52.** Miller K, Briody C, Casey D, et al. Using the Comprehensive Unit-based Safety Program model for sustained reduction in hospital infections. *Am J Infect Control* 2016;44:969-976.

**53.** Micik S, Besic N, Johnson N, Han M, Hamlyn S, Ball H. Reducing risk for ventilator associated pneumonia through nursing sensitive interventions. *Intensive Crit Care Nurs* 2013;29:261-265.

**54.** Mehta Y, Jaggi N, Rosenthal VD, et al. Effectiveness of a multidimensional approach for prevention of ventilator-associated pneumonia in 21 adult intensive-care units from 10 cities in India: Findings of the International Nosocomial Infection Control Consortium (INICC). *Epidemiology and Infection* 2013;141:2483-2491.

**55.** McDonald LT, Clark AM, Landauer AK, Kuxhaus L. Winning the war on surgical site infection: evidence-based preoperative interventions for total joint arthroplasty. *Aorn J* 2015;102:182.e181-182.e111.

**56.** Matsen Ko LJ, Yoo JY, Maltenfort M, Hughes A, Smith EB, Sharkey PF. The Effect of Implementing a Multimodal Approach on the Rates of Periprosthetic Joint Infection After Total Joint Arthroplasty. *J Arthroplasty* 2016;31:451-455.

**57.** Matocha D. Achieving near-zero and zero: Who said interventions and controls don't matter? *JAVA - Journal of the Association for Vascular Access* 2013;18:157-163.

**58.** Mathur P, Tak V, Gunjiyal J, et al. Device-associated infections at a level-1 trauma centre of a developing nation: impact of automated surveillance, training and feedbacks. *Indian J* 2015;33:51-62.

**59.** Martínez-Reséndez MF, Garza-González E, Mendoza-Olazaran S, et al. Impact of daily chlorhexidine baths and hand hygiene compliance on nosocomial infection rates in critically ill patients. *Am J Infect Control* 2014;42:713-717.

**60.** Marsteller JA, Sexton JB, Hsu YJ, et al. A multicenter, phased, cluster-randomized controlled trial to reduce central line-associated bloodstream infections in intensive care units. *Crit Care Med* 2012;40:2933-2939.

**61.** Marra AR, Sampaio Camargo TZ, Goncalves P, et al. Preventing catheter-associated urinary tract infection in the zero-tolerance era. *Am J Infect Control* 2011;39:817-822.

**62.** Marra AR, Cal RGR, Silva CV, et al. Successful prevention of ventilator-associated pneumonia in an intensive care setting. *Am J Infect Control* 2009;37:619-625.

**63.** Marra AR, Cal RGR, Durão MS, et al. Impact of a program to prevent central line-associated bloodstream infection in the zero tolerance era. *Am J Infect Control* 2010;38:434-439.

**64.** Marić N, Udiljak N, Karaula NT, Jurina H, Mačković M, Bekić D. The impact of interventions to improve adherence to preventive measures on the incidence of Nosocomial infections in ICUs. *Signa Vitae* 2014;9:34-37.

**65.** Lutfiyya W, Parsons D, Breen J. A colorectal "care bundle" to reduce surgical site infections in colorectal surgeries: a single-center experience. *Perm* 2012;16:10-16.

**66.** Longmate AG, Ellis KS, Boyle L, et al. Elimination of central-venous-catheter-related bloodstream infections from the intensive care unit. *BMJ Qual Saf* 2011;20:174-180.

**67.** Lipke VL, Hyott AS. Reducing surgical site infections by bundling multiple risk reduction strategies and active surveillance. *Aorn J* 2010;92:288-296.

**68.** Liau KH, Aung KT, Chua N, et al. Outcome of a strategy to reduce surgical site infection in a tertiary-care hospital. *Surg Infect (Larchmt)* 2010;11:151-159.

**69.** Leblebicioglu H, Yalcin AN, Rosenthal VD, et al. Effectiveness of a multidimensional approach for prevention of ventilator-associated pneumonia in 11 adult intensive care units from 10 cities of Turkey: findings of the International Nosocomial Infection Control Consortium (INICC). *Infection* 2013;41:447-456.

**70.** Leblebicioglu H, Öztürk R, Rosenthal VD, et al. 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). *Annals of Clinical Microbiology and Antimicrobials* 2013;12.

**71.** Leblebicioglu H, Ersoz G, Rosenthal VD, et al. Impact of a multidimensional infection control approach on catheter-associated urinary tract infection rates in adult intensive care units in 10 cities of Turkey: International Nosocomial Infection Control Consortium findings (INICC). *Am J Infect Control* 2013;41:885-891.

**72.** Le C, Guppy KH, Axelrod YV, et al. Lower complication rates for cranioplasty with peri-operative bundle. *Clinical Neurology and Neurosurgery* 2014;120:41-44.

**73.** Landrum ML, Murray CK. Ventilator associated pneumonia in a military deployed setting: the impact of an aggressive infection control program. *J Trauma* 2008;64:S123-127; discussion S127-128.

**74.** Kim JS, Holtom P, Vigen C. Reduction of catheter-related bloodstream infections through the use of a central venous line bundle: Epidemiologic and economic consequences. *Am J Infect Control* 2011;39:640-646.

**75.** Khan R, Al-Dorzi HM, Al-Attas K, et al. The impact of implementing multifaceted interventions on the prevention of ventilator-associated pneumonia. *Am J Infect Control* 2016;44:320-326.

**76.** Kellie SP, Scott MJ, Cavallazzi R, et al. Procedural and Educational Interventions to Reduce Ventilator-Associated Pneumonia Rate and Central Line-Associated Blood Stream Infection Rate. *Journal of Intensive Care Medicine (Sage Publications Inc.)* 2014;29:165-174.

**77.** Keenan JE, Speicher PJ, Thacker JK, Walter M, Kuchibhatla M, Mantyh CR. The preventive surgical site infection bundle in colorectal surgery: an effective approach to surgical site infection reduction and health care cost savings. *JAMA Surg* 2014;149:1045-1052.

**78.** 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:e686-690.

**79.** Kachare SD, Sanders C, Myatt K, Fitzgerald TL, Zervos EE. Toward eliminating catheter-associated urinary tract infections in an academic health center. *J Surg Res* 2014;192:280-285.

**80.** Johnson MP, Kim SJ, Langstraat CL, et al. Using Bundled Interventions to Reduce Surgical Site Infection After Major Gynecologic Cancer Surgery. *Obstet Gynecol* 2016;127:1135-1144.

**81.** Johnson M, Rocque B, Kamps T, Medow J. Reduction of ventilator-associated pneumonia in the Neuroscience Intensive Care Unit: a multimodality prevention and testing protocol. *J Neurosurg Sci* 2013;57:293-296.

**82.** Jeong IS, Park SM, Lee JM, Song JY, Lee SJ. Effect of central line bundle on central line-associated bloodstream infections in intensive care units. *Am J Infect Control* 2013;41:710-716.

**83.** Jaggi N, Sissodia P. Multimodal supervision programme to reduce catheter associated urinary tract infections and its analysis to enable focus on labour and cost effective infection control measures in a tertiary care hospital in India. *J Clin Diagn Res* 2012;6:1372-1376.

**84.** Jaggi N, Rodrigues C, Rosenthal VD, et al. Impact of an international nosocomial infection control consortium multidimensional approach on central line-associated bloodstream infection rates in adult intensive care units in eight cities in India. *Int J Infect Dis* 2013;17:e1218-1224.

**85.** Hutchins K, Karras G, Erwin J, Sullivan KL. Ventilator-associated pneumonia and oral care: a successful quality improvement project. *Am J Infect Control* 2009;37:590-597.

**86.** Hsu CD, Cohn I, Caban R. Reduction and sustainability of cesarean section surgical site infection: An evidence-based, innovative, and multidisciplinary quality improvement intervention bundle program. *Am J Infect Control* 2016.

**87.** Hong AL, Sawyer MD, Shore A, et al. Decreasing Central-Line-Associated Bloodstream Infections in Connecticut Intensive Care Units. *Journal for Healthcare Quality: Promoting Excellence in Healthcare* 2013;35:78-8

**88.** Hogle NJ, Cohen B, Hyman S, Larson E, Fowler DL. Incidence and risk factors for and the effect of a program to reduce the incidence of surgical site infection after cardiac surgery. *Surg Infect (Larchmt)* 2014;15:299-304.

**89.** Hocking C, Pirret AM. Using a combined nursing and medical approach to reduce the incidence of central line associated bacteraemia in a New Zealand critical care unit: A clinical audit. *Intensive Crit Care Nurs* 2013;29:137-146.

**90.** Hiramatsu T, Sugiyama M, Kuwabara S, Tachimori Y, Nishioka M. Effectiveness of an outpatient preoperative care bundle in preventing postoperative pneumonia among esophageal cancer patients. *Am J Infect Control* 2014;42:385-388.

**91.** Hill MV, Holubar SD, Garfield Legare CI, Luurtsema CM, Barth RJ, Jr. Perioperative Bundle Decreases Postoperative Hepatic Surgery Infections. *Ann Surg Oncol* 2015;22 Suppl 3:S1140-1146.

**92.** Higuera F, Rosenthal VD, Duarte P, Ruiz J, Franco G, Safdar N. The effect of process control on the incidence of central venous catheter-associated bloodstream infections and mortality in intensive care units in Mexico. *Crit Care Med* 2005;33:2022-2027.

**93.** Hewitt DB, Tannouri SS, Burkhart RA, et al. Reducing colorectal surgical site infections: a novel, resident-driven, quality initiative. *Am J Surg* 2016.

**94.** Hedrick TL, Heckman JA, Smith RL, Sawyer RG, Friel CM, Foley EF. Efficacy of protocol implementation on incidence of wound infection in colorectal operations. *J Am Coll Surg* 2007;205:432-438.

**95.** Hawe CS, Ellis KS, Cairns CJ, Longmate A. Reduction of ventilator-associated pneumonia: active versus passive guideline implementation. *Intensive Care Med* 2009;35:1180-1186.

**96.** Halperin JJ, Moran S, Prasek D, Richards A, Ruggiero C, Maund C. Reducing Hospital-Acquired Infections Among the Neurologically Critically Ill. *Neurocrit Care* 2016;25:170-177.

**97.** Guerin K, Wagner J, Rains K, Bessesen M. Reduction in central line-associated bloodstream infections by implementation of a postinsertion care bundle. *Am J Infect Control* 2010;38:430-433.

**98.** Guanche-Garcell H, Morales-Perez 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;6:98-107.

**99.** Grigonis AM, Dawson AM, Burkett M, et al. Use of a Central Catheter Maintenance Bundle in Long-Term Acute Care Hospitals. *Am J Crit Care* 2016;25:165-172.

**100.** Ghuman A, Chan T, Karimuddin AA, Brown CJ, Raval MJ, Phang PT. Surgical Site Infection Rates Following Implementation of a Colorectal Closure Bundle in Elective Colorectal Surgeries. *Dis Colon Rectum* 2015;58:1078-1082.

**101.** Garcia R, Jendresky L, Colbert L, Bailey A, Zaman M, Majumder M. Reducing ventilator-associated pneumonia through advanced oral-dental care: a 48-month study. *Am J Crit Care* 2009;18:523-532.

**102.** Gao F, Wu YY, Zou JN, et al. Impact of a bundle on prevention and control of healthcare associated infections in intensive care unit. *J Huazhong Univ Sci Technolog Med Sci* 2015;35:283-290.

**103.** Galpern D, Guerrero A, Tu A, Fahoum B, Wise L. Effectiveness of a central line bundle campaign on line-associated infections in the intensive care unit. *Surgery* 2008;144:492-495; discussion 495.

**104.** Frenette C, Sperlea D, Tesolin J, Patterson C, Thirion DJ. Influence of a 5-year serial infection control and antibiotic stewardship intervention on cardiac surgical site infections. *Am J Infect Control* 2016;44:977-982.

**105.** Frenette C, Sperlea D, Leharova Y, Thirion DJ. Impact of an Infection Control and Antimicrobial Stewardship Program on Solid Organ Transplantation and Hepatobiliary Surgical Site Infections. *Infect Control Hosp Epidemiol* 2016:1-7.

**106.** Freixas N, Bella F, Limon E, Pujol M, Almirante B, Gudiol F. Impact of a multimodal intervention to reduce bloodstream infections related to vascular catheters in non-ICU wards: a multicentre study. *Clin Microbiol Infect* 2013;19:838-844.

**107.** Frankel HL, Crede WB, Topal JE, Roumanis SA, Devlin MW, Foley AB. Use of corporate Six Sigma performance-improvement strategies to reduce incidence of catheter-related bloodstream infections in a surgical ICU. *J Am Coll Surg* 2005;201:349-358.

**108.** Exline MC, Ali NA, Zikri N, et al. Beyond the bundle - journey of a tertiary care medical intensive care unit to zero central line-associated bloodstream infections. *Critical Care* 2013;17.

**109.** Entesari-Tatafi D, Orford N, Bailey MJ, Chonghaile MN, Lamb-Jenkins J, Athan E. Effectiveness of a care bundle to reduce central line-associated bloodstream infections. *Med J Aust* 2015;202:247-250.

**110.** Dyrkorn OA, Kristoffersen M, Walberg M. Reducing post-caesarean surgical wound infection rate: an improvement project in a Norwegian maternity clinic. *BMJ Qual Saf* 2012;21:206-210.

**111.** Dumyati G, Concannon C, Van Wijngaarden E, et al. Sustained reduction of central line-associated bloodstream infections outside the intensive care unit with a multimodal intervention focusing on central line maintenance. *Am J Infect Control* 2014;42:723-730.

**112.** Ding S, Kilickaya O, Senkal S, Gajic O, Hubmayr RD, Li G. Temporal trends of ventilator-associated pneumonia incidence and the effect of implementing health-care bundles in a suburban community. *Chest* 2013;144:1461-1468.

**113.** DeLuca LA, Jr., Walsh P, Davidson DD, Jr., et al. Impact and feasibility of an emergency department-based ventilator-associated pneumonia bundle for patients intubated in an academic emergency department. *Am J Infect Control* 2016.

**114.** Corcoran S, Jackson V, Coulter-Smith S, Loughrey J, McKenna P, Cafferkey M. Surgical site infection after cesarean section: Implementing 3 changes to improve the quality of patient care. *Am J Infect Control* 2013;41:1258-1263.

**115.** Collignon PJ, Dreimanis DE, Beckingham WD, Roberts JL, Gardner A. Intravascular catheter bloodstream infections: An effective and sustained hospital-wide prevention program over 8 years. *Med J Aust* 2007;187:551-554.

**116.** Clarke K, Tong D, Pan Y, et al. Reduction in catheter-associated urinary tract infections by bundling interventions. *Int J Qual Health Care* 2013;25:43-49.

**117.** Cima R, Dankbar E, Lovely J, et al. Colorectal surgery surgical site infection reduction program: a national surgical quality improvement program--driven multidisciplinary single-institution experience. *J Am Coll Surg* 2013;216:23-33.

**118.** Chien CY, Lin CH, Hsu RB. Care bundle to prevent methicillin-resistant Staphylococcus aureus sternal wound infection after off-pump coronary artery bypass. *Am J Infect Control* 2014;42:562-564.

**119.** Cherifi S, Gerard M, Arias S, Byl B. A multicenter quasi-experimental study: Impact of a central line infection control program using auditing and performance feedback in five Belgian intensive care units. *Antimicrobial Resistance and Infection Control* 2013;2.

**120.** Chen JKH, Chen TH, Liu HES, et al. Bundle Care for Preventing Ventilator-associated Pneumonia at a Medical Center: A Preliminary Report. *Journal of Experimental and Clinical Medicine (Taiwan)* 2014;6:157-160.

**121.** Chen G, Wang J, Liu C, et al. Subglottic secretion drainage and semi-recumbent position for preventing ventilator associated pneumonia. *International Journal of Clinical and Experimental Medicine* 2016;9:5193-5198.

**122.** Ceppa EP, Pitt HA, House MG, et al. Reducing surgical site infections in hepatopancreatobiliary surgery. *Hpb* 2013;15:384-391.

**123.** Castagna HM, Kawagoe JY, Goncalves P, et al. Active surveillance and safety organizational goals to reduce central line-associated bloodstream infections outside the intensive care unit: 9 years of experience. *Am J Infect Control* 2016;44:1058-1060.

**124.** Bull A, Wilson J, Worth LJ, et al. A bundle of care to reduce colorectal surgical infections: an Australian experience. *J Hosp Infect* 2011;78:297-301.

**125.** Bukhari S, Banjar A, Baghdadi S, Baltow B, Ashshi A, Hussain W. Central line associated blood stream infection rate after intervention and comparing outcome with national healthcare safety network and international nosocomial infection control consortium data. *ann* 2014;4:682-686.

**126.** Bouadma L, Deslandes E, Lolom I, et al. Long-term impact of a multifaceted prevention program on ventilator-associated pneumonia in a medical intensive care unit. *Clin Infect Dis* 2010;51:1115-1122.

**127.** Bird D, Zambuto A, O'Donnell C, et al. Adherence to ventilator-associated pneumonia bundle and incidence of ventilator-associated pneumonia in the surgical intensive care unit. *Arch Surg* 2010;145:465-470.

**128.** Berenholtz SM, Pham JC, Thompson DA, et al. Collaborative cohort study of an intervention to reduce ventilator-associated pneumonia in the intensive care unit. *Infect Control Hosp Epidemiol* 2011;32:305-314.

**129.** Bell MM, Alaestante G, Finch C. A multidisciplinary intervention to prevent catheter-associated urinary tract infections using education, continuum of care, and systemwide buy-in. *Ochsner J* 2016;16:96-100.

**130.** Barchitta M, Matranga D, Quattrocchi A, et al. Prevalence of surgical site infections before and after the implementation of a multimodal infection control programme. *J Antimicrob Chemother* 2012;67:749-755.

**131.** Ban KO. The effectiveness of an evidence-based nursing care program to reduce ventilator-associated pneumonia in a Korean ICU. *Intensive Crit Care Nurs* 2011;27:226-232.

**132.** Apisarnthanarak A, Thongphubeth K, Yuekyen C, Warren DK, Fraser VJ. Effectiveness of a catheter-associated bloodstream infection bundle in a Thai tertiary care center: a 3-year study. *Am J Infect Control* 2010;38:449-455.

**133.** Apisarnthanarak A, Thongphubeth K, Sirinvaravong S, et al. Effectiveness of multifaceted hospitalwide quality improvement programs featuring an intervention to remove unnecessary urinary catheters at a tertiary care center in Thailand. *Infect Control Hosp Epidemiol* 2007;28:791-798.

**134.** Anthony T, Murray BW, Sum-Ping JT, et al. Evaluating an evidence-based bundle for preventing surgical site infection: a randomized trial. *Arch Surg* 2011;146:263-269.

**135.** Andrioli ER, Furtado GH, Medeiros EA. Catheter-associated urinary tract infection after cardiovascular surgery: Impact of a multifaceted intervention. *Am J Infect Control* 2016;44:289-293.

**136.** Alsadat R, Al-Bardan H, Mazloum MN, et al. Use of ventilator associated pneumonia bundle and statistical process control chart to decrease VAP rate in Syria. *Avicenna j* 2012;2:79-83.

**137.** Alp E, Altun D, Cevahir F, Ersoy S, Cakir O, McLaws ML. Evaluation of the effectiveness of an infection control program in adult intensive care units: a report from a middle-income country. *Am J Infect Control* 2014;42:1056-1061.

**138.** Allen GB, Miller V, Nicholas C, et al. A multitiered strategy of simulation training, kit consolidation, and electronic documentation is associated with a reduction in central line-associated bloodstream infections. *Am J Infect Control* 2014;42:643-648.

**139.** Abboud CS, de Souza EE, Zandonadi EC, et al. Carbapenem-resistant Enterobacteriaceae on a cardiac surgery intensive care unit: Successful measures for infection control. *J Hosp Infect* 2016.

**140.** Perez-Granda MJ, Barrio JM, Munoz P, Hortal J, Rincon C, Bouza E. Impact of four sequential measures on the prevention of ventilator-associated pneumonia in cardiac surgery patients. *Crit Care* 2014;18:R53.

**141.** Abbasinia M, Bahrami N, Bakhtiari S, Yazdannik A, Babaii A. The Effect of a Designed Respiratory Care Program on the Incidence of Ventilator-Associated Pneumonia: A Clinical Trial. *J Caring Sci* 2016;5:161-167.

**142.** Amine AE, Helal MO, Bakr WM. Evaluation of an intervention program to prevent hospital-acquired catheter-associated urinary tract infections in an ICU in a rural Egypt hospital. *GMS Hyg Infect Control* 2014;9:Doc15.

**143.** Bion J, Richardson A, Hibbert P, et al. 'Matching Michigan': a 2-year stepped interventional programme to minimise central venous catheter-blood stream infections in intensive care units in England. *BMJ Qual Saf* 2013;22:110-123.

**144.** Cachecho R, Dobkin E. The application of human engineering interventions reduces ventilator-associated pneumonia in trauma patients. *J Trauma Acute Care Surg* 2012;73:939-943.

**145.** Jiang X, Ma J, Hou F, Li J, Li R, Lang H. Neurosurgical Site Infection Prevention: Single Institute Experience. *Turk Neurosurg* 2016;26:234-239.

**146.** Kazaure HS, Martin M, Yoon JK, Wren SM. Long-term results of a postoperative pneumonia prevention program for the inpatient surgical ward. *JAMA Surg* 2014;149:914-918.

**147.** Konishi T, Watanabe T, Morikane K, et al. Prospective surveillance effectively reduced rates of surgical site infection associated with elective colorectal surgery at a university hospital in Japan. *Infect Control Hosp Epidemiol* 2006;27:526-528.

**148.** Remington L, Faraklas I, Gauthier K, et al. Assessment of a Central Line-Associated Bloodstream Infection Prevention Program in a Burn-Trauma Intensive Care Unit. *JAMA Surg* 2016;151:485-486.

**149.** Saint S, Greene MT, Krein SL, et al. A Program to Prevent Catheter-Associated Urinary Tract Infection in Acute Care. *N Engl J Med* 2016;374:2111-2119.

**150.** Thompson KM, Oldenburg WA, Deschamps C, Rupp WC, Smith CD. Chasing zero: the drive to eliminate surgical site infections. *Ann Surg* 2011;254:430-436; discussion 436-437.

**151.** Warren DK, Cosgrove SE, Diekema DJ, et al. A multicenter intervention to prevent catheter-associated bloodstream infections. *Infect Control Hosp Epidemiol* 2006;27:662-669.

**152.** Youngquist P, Carroll M, Farber M, et al. Implementing a ventilator bundle in a community hospital. *Jt Comm J Qual Patient Saf* 2007;33:219-225.

**153.** Mold JW, Hamm RM, McCarthy LH. The law of diminishing returns in clinical medicine: how much risk reduction is enough? *Journal of the American Board of Family Medicine : JABFM* 2010;23:371-375.

**154.** Wier L, Pfuntner A, Steiner C. Hospital Utilization among Oldest Adults, 2008: Statistical Brief #103. *Healthcare Cost and Utilization Project (HCUP) Statistical Briefs*. Rockville (MD)2006.

**155.** Gorina Y, Pratt LA, Kramarow EA, Elgaddal N. Hospitalization, Readmission, and Death Experience of Noninstitutionalized Medicare Fee-for-service Beneficiaries Aged 65 and Over. *Natl Health Stat Report* 2015:1-24.

**156.** Yancik R, Ershler W, Satariano W, Hazzard W, Cohen HJ, Ferrucci L. Report of the national institute on aging task force on comorbidity. *J Gerontol A Biol Sci Med Sci* 2007;62:275-280.

**157.** Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU.[Erratum appears in N Engl J Med. 2007 Jun 21;356(25):2660]. *N Engl J Med* 2006;355:2725-2732.

**158.** Sax H, Clack L, Touveneau S, et al. Implementation of infection control best practice in intensive care units throughout Europe: a mixed-method evaluation study. *Implementation science : IS* 2013;8:24.

**159.** Dick AW, Perencevich EN, Pogorzelska-Maziarz M, Zwanziger J, Larson EL, Stone PW. A decade of investment in infection prevention: a cost-effectiveness analysis. *Am J Infect Control* 2015;43:4-9.

**160.** Raschka S, Dempster L, Bryce E. Health economic evaluation of an infection prevention and control program: are quality and patient safety programs worth the investment? *Am J Infect Control* 2013;41:773-777.

**161.** Wilson AP, Bint AJ, Glenny AM, Leibovici L, Peto TE. Meta-analysis and systematic review of antibiotic trials. *J Hosp Infect* 1999;43 Suppl:S211-214.