

Search Strategy and Literature Review Documentation for the *Compendium of Strategies to Prevent Healthcare-Associated Infections: 2022 Updates*

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Methods Summary for “Strategies to prevent infections in acute-care hospitals”: CAUTI, VAP/VAE/NV-HAP, Hand Hygiene, *C. difficile*, SSI, MRSA, and CAUTI

1. 2-3 subject matter experts identified to lead panel of authors representing the Compendium Partners: SHEA, IDSA, APIC, AHA, The Joint Commission, as well as representation by CDC. Panel members complied with SHEA and IDSA policies on conflict-of-interest disclosure.
2. Comprehensive search strategy developed by consultant medical librarian (Jan. 2012-Jul. 2019; updated to Aug. 2021) and approved by authors
3. Search criteria identified (see bottom of Search Strategies tables)
4. Screening conducted by authors in double-blind fashion using the abstract management software Covidence; conflicts resolved by lead authors; full text screening performed by authors (1 author/article)
5. See **Table 2** in appendix and Table 1 in Compendium manuscripts for quality of evidence criteria
6. Draft manuscript reviewed by Compendium Expert Panel. Revisions made by authors.

7. Revised draft sent to 5 Compendium Partners (SHEA, IDSA, APIC, AHA, The Joint Commission) and professional organizations for comments. Revisions made by authors.
8. Final draft reviewed by Board/leadership of Compendium Partners for endorsement prior to submission for publication.
9. Completed Compendium: 2022 Updates sent to professional organizations for consideration for endorsement or support.
 - a. Endorsers: organizations that formally reviewed the Compendium articles and wish to be listed as endorsers in the Introduction, Executive Summary, and relevant Compendium materials. Typically, these organizations endorse the entire Compendium, but exceptions may be made for organizations that only are able to endorse one or more sections based on their areas of expertise.
 - b. Supporters: organizations that did not formally review the Compendium articles but wish to be listed as supporters of the overall Compendium effort in the Introduction, Executive Summary, and relevant Compendium materials.

Overview of methods for “Implementing strategies to prevent infections in acute care settings”

Trivedi K, Schaffzin J, Deloney V, Aureden K, Carrico R, Garcia-Houchins S, Garrett J, Lee G, Maragakis L, Moody J, Pettis A, Saint S, Schweizer M, Yokoe D, Berenholtz S. *Implementing strategies to prevent infections in acute care settings. Infection Control & Hospital Epidemiology. 2023;44.*

1. Drs. Kavita Trivedi and Joshua Schaffzin identified to lead the panel.
2. 1-3 authors from each Compendium author panel identified to represent their HAI-specific Compendium section.
3. Overview of implementation and selection of models, frameworks, and resources based on the implementation articles identified through the systematic literature reviews conducted for each HAI-specific Compendium section, expert opinion and consensus, practical experience, and published research and resources retrieved by the authors. A specific search strategy and systematic literature search was not conducted for this article.
4. A sample of implementation models and frameworks were selected based on their track record in published research, utility in advancing infection prevention and control goals, and/or widespread or broad-based applicability determined to be relevant to infection prevention and control aims.
5. Subgroup of authors created a glossary of terms relevant to implementation methodology.
6. Draft manuscript reviewed by Compendium Expert Panel. Revisions made by authors.
7. Revised draft sent to 5 Compendium Partners (SHEA, IDSA, APIC, AHA, The Joint Commission) and professional organizations for comments. Revisions made by authors.
8. Final draft reviewed by Board/leadership of Compendium Partners for endorsement prior to submission for publication.
9. Article included among Compendium: 2022 Updates sent to professional organizations for consideration for endorsement or support (see 9 above).

Search Strategies and Literature Review Documentation

Strategies to prevent central line-associated bloodstream infections in acute-care hospitals: 2022 Update	
<i>Buetti N, Marshall J, Drees M, Fakh M, Hadaway L, Maragakis L, Monsees E, Novosad S, O’Grady N, Rupp M, Wolf J, Yokoe D, Mermel L. Strategies to prevent central line-associated bloodstream infections in acute-care hospitals: 2022 Update. Infection Control & Hospital Epidemiology. 2022;43:553-569. doi:10.1017/ice.2022.87</i>	
June 2012-July 2019	Time period 1
1470	PubMed and Embase retrievals (run October 2019)
463	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
1632	Studies imported for screening; 0 duplicates removed
1294	Studies excluded (double-blind screening by authors)
338	Full-text studies screened

152	Studies excluded during full-text screening
July 2019-August 2021	Time period 2
512	PubMed and Embase retrievals (run August 2021)
74	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
438	Studies imported for screening; 0 duplicates removed
408	Studies excluded (single screening by lead authors)
30	Full-text studies screened
266	Articles cited in manuscript

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(((((("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR ("EVIDENCE-BASED MEDICINE/METHODS"[MESH]) OR ("EVIDENCE-BASED PRACTICE/METHODS"[MESH])) AND (((("CATHETERIZATION, CENTRAL VENOUS"[MESH] OR CENTRAL VENOUS CATHETER*[TIAB] OR CENTRAL CATHETER*[TIAB] OR CENTRAL INTRAVENOUS ACCESS DEVICE*[TIAB] OR CENTRAL VENOUS ACCESS DEVICE*[TIAB] OR PERIPHERALLY INSERTED CENTRAL CATHETER*[TIAB] OR PICC PLACEMENT*[TIAB] OR PICC LINE*[TIAB] OR PICC INSERTION*[TIAB] OR SUBCUTANEOUS PORT*[TIAB] OR CENTRAL LINE*[TIAB] OR FEMORAL LINE*[TIAB] OR JUGULAR LINE*[TIAB] OR SUBCLAVIAN LINE*[TIAB] OR PORT CATHETER*[TIAB] OR VASCULAR ACCESS PORT*[TIAB] OR PORT-A-CATH[TIAB] OR PORTACATH[TIAB] OR INTRA-ARTERIAL LINE*[TIAB] OR ARTERIAL LINE*[TIAB] OR PERIPHERAL ARTERY CATHETER*[TIAB] OR PERIPHERAL ARTERIAL CATHETER*[TIAB] OR MIDLINE CATHETER*[TIAB]) OR (("VASCULAR ACCESS DEVICES"[MESH] OR "CATHETERIZATION, PERIPHERAL"[MESH] OR INTRAVASCULAR DEVICE*[TIAB] OR VASCULAR ACCESS DEVICE*[TIAB] OR VASCULAR CATHETER*[TIAB]) AND CENTRAL[TIAB]) OR (("CATHETERS, INDWELLING"[MESH] OR INDWELLING CATHETER*[TIAB] OR IMPLANTABLE CATHETER*[TIAB] OR IN-DWELLING CATHETER*[TIAB]) AND (CENTRAL[TIAB] OR VENOUS*[TIAB])) OR ("CATHETERIZATION, PERIPHERAL"[MESH] AND ARTERIAL*[TIAB]) AND ((BLOOD INFECTION*[TIAB] OR BLOOD STREAM INFECTION*[TIAB]) OR (BLOODSTREAM INFECTION*[TIAB]) OR (BACTERAEMIA[TIAB] OR BACTEREMIA[MH] OR BACTEREMIA[TIAB])))) OR (CRBSI[TIAB] OR CLABSI[TIAB] OR CR-BSI[TIAB] OR CLA-BSI[TIAB])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])))) OR (((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])) AND (((("CATHETERIZATION, CENTRAL VENOUS"[MESH] OR CENTRAL VENOUS CATHETER*[TIAB] OR CENTRAL CATHETER*[TIAB] OR CENTRAL INTRAVENOUS ACCESS DEVICE*[TIAB] OR CENTRAL VENOUS ACCESS DEVICE*[TIAB] OR PERIPHERALLY INSERTED CENTRAL CATHETER*[TIAB] OR PICC PLACEMENT*[TIAB] OR PICC LINE*[TIAB] OR PICC INSERTION*[TIAB] OR SUBCUTANEOUS PORT*[TIAB] OR CENTRAL LINE*[TIAB] OR FEMORAL LINE*[TIAB] OR JUGULAR LINE*[TIAB] OR SUBCLAVIAN LINE*[TIAB] OR PORT CATHETER*[TIAB] OR VASCULAR ACCESS PORT*[TIAB] OR PORT-A-CATH[TIAB] OR PORTACATH[TIAB] OR INTRA-ARTERIAL LINE*[TIAB] OR ARTERIAL LINE*[TIAB] OR PERIPHERAL ARTERY CATHETER*[TIAB] OR PERIPHERAL ARTERIAL CATHETER*[TIAB] OR MIDLINE CATHETER*[TIAB]) OR (("VASCULAR ACCESS DEVICES"[MESH] OR "CATHETERIZATION, PERIPHERAL"[MESH] OR INTRAVASCULAR DEVICE*[TIAB] OR VASCULAR ACCESS DEVICE*[TIAB] OR VASCULAR CATHETER*[TIAB]) AND CENTRAL[TIAB]) OR (("CATHETERS, INDWELLING"[MESH] OR INDWELLING CATHETER*[TIAB] OR IMPLANTABLE CATHETER*[TIAB] OR IN-DWELLING CATHETER*[TIAB]) AND (CENTRAL[TIAB] OR VENOUS*[TIAB])) OR ("CATHETERIZATION, PERIPHERAL"[MESH] AND ARTERIAL*[TIAB]) AND ((BLOOD INFECTION*[TIAB] OR BLOOD STREAM INFECTION*[TIAB]) OR (BLOODSTREAM INFECTION*[TIAB]) OR (BACTERAEMIA[TIAB] OR BACTEREMIA[MH] OR

BACTEREMIA[TIAB])) OR (CRBSI[TIAB] OR CLABSI[TIAB] OR CR-BSI[TIAB] OR CLA-BSI[TIAB])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH])) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT])) NOT (REVIEW[PT]) OR (((("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR ("EVIDENCE-BASED MEDICINE/METHODS"[MESH]) OR ("EVIDENCE-BASED PRACTICE/METHODS"[MESH])) AND (((("CATHETERIZATION, CENTRAL VENOUS"[MESH] OR CENTRAL VENOUS CATHETER*[TIAB] OR CENTRAL CATHETER*[TIAB] OR CENTRAL INTRAVENOUS ACCESS DEVICE*[TIAB] OR CENTRAL VENOUS ACCESS DEVICE*[TIAB] OR PERIPHERALLY INSERTED CENTRAL CATHETER*[TIAB] OR PICC PLACEMENT*[TIAB] OR PICC LINE*[TIAB] OR PICC INSERTION*[TIAB] OR SUBCUTANEOUS PORT*[TIAB] OR CENTRAL LINE*[TIAB] OR FEMORAL LINE*[TIAB] OR JUGULAR LINE*[TIAB] OR SUBCLAVIAN LINE*[TIAB] OR PORT CATHETER*[TIAB] OR VASCULAR ACCESS PORT*[TIAB] OR PORT-A-CATH[TIAB] OR PORTACATH[TIAB] OR INTRA-ARTERIAL LINE*[TIAB] OR ARTERIAL LINE*[TIAB] OR PERIPHERAL ARTERY CATHETER*[TIAB] OR PERIPHERAL ARTERIAL CATHETER*[TIAB] OR MIDLINE CATHETER*[TIAB]) OR (("VASCULAR ACCESS DEVICES"[MESH] OR "CATHETERIZATION, PERIPHERAL"[MESH] OR INTRAVASCULAR DEVICE*[TIAB] OR VASCULAR ACCESS DEVICE*[TIAB] OR VASCULAR CATHETER*[TIAB]) AND CENTRAL[TIAB]) OR (("CATHETERS, INDWELLING"[MESH] OR INDWELLING CATHETER*[TIAB] OR IMPLANTABLE CATHETER*[TIAB] OR IN-DWELLING CATHETER*[TIAB]) AND (CENTRAL[TIAB] OR VENOUS*[TIAB])) OR ("CATHETERIZATION, PERIPHERAL"[MESH] AND ARTERIAL*[TIAB]) AND ((BLOOD INFECTION*[TIAB] OR BLOOD STREAM INFECTION*[TIAB]) OR (BLOODSTREAM INFECTION*[TIAB]) OR (BACTERAEMIA[TIAB] OR BACTEREMIA[MH] OR BACTEREMIA[TIAB])) OR (CRBSI[TIAB] OR CLABSI[TIAB] OR CR-BSI[TIAB] OR CLA-BSI[TIAB])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) OR (((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])) AND (((("CATHETERIZATION, CENTRAL VENOUS"[MESH] OR CENTRAL VENOUS CATHETER*[TIAB] OR CENTRAL CATHETER*[TIAB] OR CENTRAL INTRAVENOUS ACCESS DEVICE*[TIAB] OR CENTRAL VENOUS ACCESS DEVICE*[TIAB] OR PERIPHERALLY INSERTED CENTRAL CATHETER*[TIAB] OR PICC PLACEMENT*[TIAB] OR PICC LINE*[TIAB] OR PICC INSERTION*[TIAB] OR SUBCUTANEOUS PORT*[TIAB] OR CENTRAL LINE*[TIAB] OR FEMORAL LINE*[TIAB] OR JUGULAR LINE*[TIAB] OR SUBCLAVIAN LINE*[TIAB] OR PORT CATHETER*[TIAB] OR VASCULAR ACCESS PORT*[TIAB] OR PORT-A-CATH[TIAB] OR PORTACATH[TIAB] OR INTRA-ARTERIAL LINE*[TIAB] OR ARTERIAL LINE*[TIAB] OR PERIPHERAL ARTERY CATHETER*[TIAB] OR PERIPHERAL ARTERIAL CATHETER*[TIAB] OR MIDLINE CATHETER*[TIAB]) OR (((("VASCULAR ACCESS DEVICES"[MESH] OR "CATHETERIZATION, PERIPHERAL"[MESH] OR INTRAVASCULAR DEVICE*[TIAB] OR VASCULAR ACCESS DEVICE*[TIAB] OR VASCULAR CATHETER*[TIAB]) AND CENTRAL[TIAB]) OR (("CATHETERS, INDWELLING"[MESH] OR INDWELLING CATHETER*[TIAB] OR IMPLANTABLE CATHETER*[TIAB] OR IN-DWELLING CATHETER*[TIAB]) AND (CENTRAL[TIAB] OR VENOUS*[TIAB])) OR ("CATHETERIZATION, PERIPHERAL"[MESH] AND ARTERIAL*[TIAB]) AND ((BLOOD INFECTION*[TIAB] OR BLOOD STREAM INFECTION*[TIAB]) OR (BLOODSTREAM INFECTION*[TIAB]) OR (BACTERAEMIA[TIAB] OR BACTEREMIA[MH] OR BACTEREMIA[TIAB])) OR (CRBSI[TIAB] OR CLABSI[TIAB] OR CR-BSI[TIAB] OR CLA-BSI[TIAB])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH])) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]) AND (systematic[sb]))

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((('intra-arterial line':ti,ab,de OR 'peripheral artery catheter':ti,ab,de OR 'peripheral arterial catheter':ti,ab,de OR 'central venous catheterization'/exp OR 'central venous catheterization':ti,ab OR 'central venous catheterisation':ti,ab OR 'central catheter':ti,ab,de OR 'central intravenous access device':ti,ab,de OR 'central venous access device':ti,ab,de OR 'peripherally inserted central venous catheter'/exp OR 'peripherally inserted central venous catheter':ti,ab OR 'picc placement':ti,ab,de OR 'picc line':ti,ab,de OR 'picc insertion':ti,ab,de OR 'implantable port system'/exp OR 'implantable port system':ti,ab OR 'subcutaneous

port':ti,ab OR 'central line':ti,ab,de OR 'femoral line':ti,ab,de OR 'jugular line':ti,ab,de OR 'subclavian line':ti,ab,de OR 'port catheter':ti,ab,de OR 'vascular access port':ti,ab,de OR 'port-a-cath':ti,ab,de OR portacath:ti,ab,de OR 'arterial line'/exp OR 'arterial line':ti,ab OR 'midline catheter'/exp OR 'midline catheter':ti,ab OR ('vascular access device' NEAR/2 central) OR (('peripheral venous catheter' OR 'peripheral catheter') NEAR/2 central) OR (('intravascular device' OR 'vascular access device' OR 'vascular catheter') NEAR/2 central) OR (('indwelling catheter' OR 'implantable catheter' OR 'in-dwelling catheter') NEAR/2 (central OR venous)) OR 'artery catheter' OR 'arterial catheter') AND ('bloodstream infection'/exp OR 'bloodstream infection':ti,ab OR 'blood stream infections':ti,ab OR 'bloodstream infections':ti,ab OR 'blood infection':ti,ab OR 'blood infections':ti,ab OR 'bacteremia'/exp OR 'bacteremia':ti,ab OR 'bacteraemia'/exp) OR crbsi:ti,ab,de OR clabsi:ti,ab,de OR 'cr bsi':ti,ab,de OR 'cla bsi':ti,ab,de) AND [english]/lim AND [1-6-2012]/sd NOT [31-8-2021]/sd AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('editorial'/exp OR 'letter'/exp OR 'case report'/exp) AND ('article'/it OR 'article in press'/it)

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021) (list does not include grey literature):

116. Swaminathan L, Flanders S, Horowitz J, Zhang Q, O'Malley M, Chopra V. Safety and Outcomes of Midline Catheters vs Peripherally Inserted Central Catheters for Patients with Short-term Indications: A Multicenter Study. *JAMA Intern Med.* 2022;182:50-8.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent ventilator-associated pneumonia, ventilator-associated events, and nonventilator hospital-acquired pneumonia in acute-care hospitals: 2022 Update

Klompas M, Branson R, Cawcutt K, Crist M, Eichenwald E, Greene L, Lee G, Maragakis L, Powell K, Priebe G, Speck K, Yokoe D, Berenholtz S. Strategies to prevent ventilator-associated pneumonia, ventilator-associated events, and nonventilator hospital-acquired pneumonia in acute-care hospitals: 2022 Update. Infection Control & Hospital Epidemiology. 2022;43:687-713. doi:10.1017/ice.2022.88

June 2012-July 2019	Time period 1
2961	PubMed and Embase retrievals
699	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
2261	Studies imported to Covidence for screening; 1 duplicate removed
1579	Studies excluded (double-blind screening by authors); 8 removed during conflict resolution conducted by lead authors
678	Full-text studies screened
July 2019-August 2021	Time period 2
1554	PubMed and Embase retrievals
883	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria (screened out references include COVID-19 articles discussing ventilator use but unrelated to VAP/VAE/NV-HAP)
671	Studies imported for screening; 0 duplicates removed
601	Studies excluded (single screening by lead authors)
70	Full-text studies screened
399	Articles cited in manuscript

Search Strategies: PubMed and Embase

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(((((("VENTILATORS, MECHANICAL"[MESH] OR VENTILATOR*[TIAB]) AND ("PNEUMONIA"[MESH] OR PNEUMON*[TIAB])) OR ("PNEUMONIA, VENTILATOR-ASSOCIATED"[MESH] OR VENTILATOR ASSOCIATED PNEUMONIA*[TIAB] OR VENTILATOR ACQUIRED PNEUMONIA*[TIAB]) OR ("VENTILATORS, MECHANICAL/ADVERSE EFFECTS"[MESH] OR VENTILATOR ASSOCIATED CONDITION*[TIAB]) OR ("Ventilators, Mechanical"[Mesh] AND COMPLICATION*[TW]) OR (VENTILATOR COMPLICATION*[TIAB]) OR ("HEALTHCARE-ASSOCIATED PNEUMONIA"[MESH] OR HEALTHCARE ASSOCIATED PNEUMONIA*[TIAB] OR NOSOCOMIAL PNEUMONIA*[TIAB] OR HOSPITAL ACQUIRED PNEUMONIA*[TIAB] OR NV-HAP[TIAB]) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH])) NOT (LETTER*[PT] OR EDITORIAL*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT])) NOT (REVIEW[PT]) OR ((SYSTEMATIC REVIEW[PT]) AND (((("VENTILATORS, MECHANICAL"[MESH] OR VENTILATOR*[TIAB]) AND ("PNEUMONIA"[MESH] OR PNEUMON*[TIAB])) OR ("PNEUMONIA, VENTILATOR-ASSOCIATED"[MESH] OR VENTILATOR ASSOCIATED PNEUMONIA*[TIAB] OR VENTILATOR ACQUIRED PNEUMONIA*[TIAB]) OR ("VENTILATORS, MECHANICAL/ADVERSE EFFECTS"[MESH] OR VENTILATOR ASSOCIATED CONDITION*[TIAB]) OR ("Ventilators, Mechanical"[Mesh] AND COMPLICATION*[TW]) OR (VENTILATOR COMPLICATION*[TIAB]) OR ("HEALTHCARE-ASSOCIATED PNEUMONIA"[MESH] OR HEALTHCARE ASSOCIATED PNEUMONIA*[TIAB] OR NOSOCOMIAL PNEUMONIA*[TIAB] OR HOSPITAL ACQUIRED PNEUMONIA*[TIAB] OR NV-HAP[TIAB]) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH])) NOT (LETTER*[PT] OR EDITORIAL*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]))) AND (("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR ("EVIDENCE-BASED MEDICINE/METHODS"[MESH]) OR ("EVIDENCE-BASED PRACTICE/METHODS"[MESH])) OR ((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB]))))

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('ventilator associated pneumonia'/exp OR 'ventilator associated pneumonia':ti,ab OR 'ventilator acquired pneumonia':ti,ab OR 'ventilator-acquired pneumonia':ti,ab OR (('ventilator'/exp OR 'ventilator':ti,ab) AND ('pneumonia'/exp OR pneumon*:ti,ab)) OR ('ventilator'/exp AND ('adverse device effect'/lnk OR 'complication'/lnk)) OR 'health care associated pneumonia':ti,ab,de OR 'nosocomial pneumonia':ti,ab,de OR 'hospital acquired pneumonia':ti,ab,de OR 'nv hap':ti,ab OR 'ventilator associated condition':ti,ab,de OR 'ventilator associated event':ti,ab,de) AND [english]/lim AND [1-6-2012]/sd NOT [8-11-2021]/sd AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('article'/it OR 'article in press'/it) NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('letter'/exp OR 'editorial'/exp OR 'case report'/exp) AND ('epidemic'/exp OR epidemic*:ti,ab,de OR outbreak*:ti,ab OR 'endemic disease'/exp OR endemic:ti,ab OR cluster*:ti,ab OR 'pseudo outbreak':ti,ab OR 'pseudo-outbreak':ti,ab OR 'pseudo-outbreaks':ti,ab OR (('disease transmission' OR transmission*) NEAR/3 risk*) OR 'biofilm'/exp OR 'biofilm':ti,ab OR 'bio film*':ti,ab OR 'health care quality'/exp OR 'health care quality':ti,ab OR 'protocol compliance'/exp OR 'protocol compliance':ti,ab OR 'guideline adherence':ti,ab OR 'guideline compliance':ti,ab OR 'adherence to protocol':ti,ab OR 'compliance to protocol':ti,ab OR 'procedural adherence':ti,ab OR 'procedural compliance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR bundle*:ti,ab OR implement*:ti,ab OR 'infection control'/de OR 'infection control':ti,ab OR 'prevention and control'/exp OR strateg*:ti,ab OR (reduc* NEAR/3 infection*) OR 'prophylaxis'/de OR prophyla*:ti,ab OR 'modifiable risk factor'/exp OR 'modifiable risk factor':ti,ab OR 'early removal':ti,ab OR intervention*:ti,ab OR 'total quality management'/exp OR 'quality improvement':ti,ab OR 'quality management':ti,ab OR improve*:ti,ab OR 'antimicrobial stewardship'/exp OR 'antimicrobial stewardship':ti,ab OR 'antibiotic stewardship':ti,ab OR 'clinical protocol'/de OR 'clinical protocol':ti,ab OR 'clinical protocols':ti,ab OR 'treatment protocol':ti,ab OR 'treatment protocols':ti,ab OR 'clinical pathway'/exp OR 'clinical pathway':ti,ab OR 'clinical pathways':ti,ab OR 'critical pathway':ti,ab OR 'best practice alert':ti,ab OR 'decision support system'/exp OR 'decision support technique':ti,ab OR 'risk prediction model'/exp OR 'risk prediction':ti,ab OR

'enhanced recovery pathway'/exp OR 'enhanced recovery pathway':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery program':ti,ab OR 'enhanced recovery programme':ti,ab OR ('evidence based' NEAR/3 method*) OR prevent*:de,ti,ab OR 'surveillance and monitoring'/exp OR surveillance*:ti,ab)

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021) (list does not include grey literature):

127. Sozkes S, Sozkes S. Use of toothbrushing in conjunction with chlorhexidine for preventing ventilator-associated pneumonia: A random-effect meta-analysis of randomized controlled trials. *Int J Dent Hyg.* 2023 May;21:389-397.

151. Dale CM, Rose L, Carbone S, et al. Effect of oral chlorhexidine de-adoption and implementation of an oral care bundle on mortality for mechanically ventilated patients in the intensive care unit (CHORAL): a multi-center stepped wedge cluster-randomized controlled trial. *Intensive Care Med.* 2021 Nov;47:1295-1302.

157. Johnstone J, Meade M, Lauzier F, et al. Prevention of Severe Pneumonia and Endotracheal Colonization Trial (PROSPECT) Investigators and the Canadian Critical Care Trials Group. Effect of Probiotics on Incident Ventilator-Associated Pneumonia in Critically Ill Patients: A Randomized Clinical Trial. *JAMA.* 2021 Sep 21;326:1024-1033.

312. Klompas M, Milton DK, Rhee C, et al. Current Insights Into Respiratory Virus Transmission and Potential Implications for Infection Control Programs : A Narrative Review. *Ann Intern Med.* 2021 Dec;174(12):1710-1718. doi: 10.7326/M21-2780. Epub 2021 Nov 9. PMID: 34748374.

313. Klompas M. New Insights into the Prevention of Hospital-Acquired Pneumonia/Ventilator-Associated Pneumonia Caused by Viruses. *Semin Respir Crit Care Med.* 2022 Apr;43:295-303.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update

Glowicz J, Landon E, Sickbert-Bennett E, Aiello A, deKay K, Hoffman K, Maragakis L, Olmsted R, Polgreen P, Trexler P, VanAmringe M, Wood A, Yokoe D, Ellingson K. SHEA/IDSA/APIC Practice Recommendation: Strategies to prevent healthcare-associated infections through hand hygiene: 2022 Update. Infection Control & Hospital Epidemiology. 2023;44:355-376. doi:10.1017/ice.2022.304

June 2012-July 2019	Time period 1
2036	PubMed and Embase retrievals (run October 2019)
338	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
1698	Studies imported to Covidence for screening, 8 duplicates removed
553	Studies excluded (double-blind screening by authors)
1152	Full-text studies screened
July 2019-August 2021	Time period 2
1052	PubMed and Embase retrievals (run August 2021)
541	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
511	Studies imported for screening; 0 duplicates removed
306	Studies excluded (single screening by lead authors)
87	Full-text studies screened
185	Articles cited in manuscript

Search Strategies: PubMed and Embase

PUBMED

("RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE[TW] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR ONCOLOGY UNIT*[TIAB] OR CANCER WARD*[TIAB] OR CANCER UNIT*[TIAB] OR ONCOLOGY WARD*[TIAB] OR TRANSPLANT UNIT*[TIAB] OR TRANSPLANTATION UNIT*[TIAB] OR ACUTE CARE*[TIAB] OR OPERATING THEATER*[TIAB] OR OPERATING THEATRE*[TIAB] OR SURGICAL WARD*[TIAB] OR CANCER CARE UNIT*[TIAB] OR DELIVERY ROOM* OR SECONDARY CARE CENTER*[TW] OR SECONDARY CARE CENTRE*[TIAB] OR PEDIATRIC UNIT*[TIAB] OR PAEDIATRIC UNIT*[TIAB] OR PAEDIATRIC WARD*[TIAB] OR COMMUNITY HEALTH CENTER*[TW] OR COMMUNITY MENTAL HEALTH CENTER*[TW] OR MATERNAL-CHILD HEALTH CENTER*[TW] OR SURGICENTER*[TW] OR BIRTHING CENTER*[TIAB] OR NURSER*[TW] OR COMMUNITY HEALTH CENTRE*[TW] OR COMMUNITY MENTAL HEALTH CENTRE*[TW] OR MATERNAL-CHILD HEALTH CENTRE*[TW] OR SURGICENTRE*[TW] OR BIRTHING CENTRE*[TIAB] OR "HEALTH FACILITIES"[MESH:noexp] OR HEALTH FACILIT*[TIAB] OR HEALTH CARE FACILIT*[TIAB] OR HEALTHCARE FACILIT*[TIAB] OR "HEMODIALYSIS UNITS, HOSPITAL"[MESH] OR HEMODIALYSIS[TIAB] OR AMBULATORY SURG*[TIAB] OR URGENT CARE[TIAB] OR FAMILY PLANNING CENTER*[TIAB] OR FAMILY PLANNING CENTRE*[TIAB] OR AMBULATORY HEALTH CENTER*[TIAB] OR AMBULATORY HEALTH CENTRE*[TIAB] OR ABORTION CENTER*[TIAB] OR ABORTION CENTRE*[TIAB] OR ABORTION CLINIC*[TIAB] OR FREE-STANDING CLINIC*[TIAB] OR FREE-STANDING CLINICS[TIAB] OR "AMBULATORY CARE FACILITIES"[MESH] OR AMBULATORY CARE*[TIAB] OR "OUTPATIENT CLINICS, HOSPITAL"[MESH] OR OUTPATIENT CLINIC*[TIAB] OR PAIN CLINIC*[TW] OR "LONG-TERM CARE"[MESH] OR LONG-TERM CARE*[TIAB] OR DEMENTIA CARE[TIAB] OR MEMORY CARE*[TIAB] OR BEHAVIORAL HEALTHCARE*[TIAB] OR BEHAVIORAL HEALTH CARE*[TIAB] OR BEHAVIOURAL HEALTHCARE*[TIAB] OR BEHAVIOURAL HEALTH CARE*[TIAB] OR "PSYCHIATRIC DEPARTMENT, HOSPITAL"[MESH] OR PSYCHIATRIC DEPARTMENT*[TIAB] OR PSYCHIATRIC UNIT*[TIAB] OR PSYCHIATRIC WARD*[TIAB] OR MENTAL HEALTH UNIT*[TIAB] OR "SUBACUTE CARE"[MESH] OR SUBACUTE CARE[TIAB] OR POST ACUTE CARE*[TIAB] OR POSTACUTE CARE*[TIAB] OR SUB-ACUTE CARE*[TIAB] OR "NURSING HOMES"[MESH] OR NURSING HOME*[TIAB] OR INTERMEDIATE CARE FACILIT*[TIAB] OR SKILLED NURSING FACILIT*[TIAB]) AND (((((HAND CLEANSING[TIAB] OR HAND DRYING[TIAB] OR HAND SANITAT*[TIAB] OR HANDSCRUBBING[TIAB] OR "HAND HYGIENE"[MESH] OR HAND HYGIENE*[TIAB] OR HAND DISINFECT*[TW] OR SURGICAL SCRUBBING[TIAB] OR HANDWASHING*[TIAB] OR HAND WASHING*[TIAB] OR "HAND SANITIZERS"[MESH] OR HAND SANITIZER*[TIAB] OR HAND SANITISER*[TIAB] OR HAND ANTISEP*[TIAB] OR HAND ANTI-SEP*[TIAB] OR WASHING HANDS[TIAB] OR CLEANING HANDS[TIAB] OR HAND RUB*[TIAB] OR HANDRUB*[TIAB] OR HAND SCRUB*[TIAB] OR HAND DECONTAMIN*[TIAB] OR SURGICAL RUB*[TIAB] OR PREOPERATIVE SCRUB*[TIAB] OR PRE-OPERATIVE SCRUB*[TIAB] OR SCRUBBING TECHNIQUE*[TIAB] OR SCRUB TECHNIQUE*[TIAB] OR SCRUBBING METHOD*[TIAB] OR SCRUB METHOD*[TIAB])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (REVIEW[PT])) OR (((((HAND CLEANSING[TIAB] OR HAND DRYING[TIAB] OR HAND SANITAT*[TIAB] OR HANDSCRUBBING[TIAB] OR "HAND HYGIENE"[MESH] OR HAND HYGIENE*[TIAB] OR HAND DISINFECT*[TW] OR SURGICAL SCRUBBING[TIAB] OR HANDWASHING*[TIAB] OR HAND WASHING*[TIAB] OR "HAND SANITIZERS"[MESH] OR HAND SANITIZER*[TIAB] OR HAND SANITISER*[TIAB] OR HAND ANTISEP*[TIAB] OR HAND ANTI-SEP*[TIAB] OR WASHING HANDS[TIAB] OR CLEANING HANDS[TIAB] OR HAND RUB*[TIAB] OR HANDRUB*[TIAB] OR HAND SCRUB*[TIAB] OR HAND DECONTAMIN*[TIAB] OR SURGICAL RUB*[TIAB] OR PREOPERATIVE SCRUB*[TIAB] OR PRE-OPERATIVE SCRUB*[TIAB] OR SCRUBBING TECHNIQUE*[TIAB] OR SCRUB TECHNIQUE*[TIAB] OR SCRUBBING METHOD*[TIAB] OR SCRUB METHOD*[TIAB])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) AND (SYSTEMATIC REVIEW[PT])) AND ((("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PROPHYLA*[TW] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR

CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR BEST PRACTICE ALERT*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR "EVIDENCE-BASED MEDICINE/METHODS"[MESH] OR "EVIDENCE-BASED PRACTICE/METHODS"[MESH]) OR (FEEDBACK[TW]) OR (MONITOR*[TW]) OR ("CHANGE MANAGEMENT"[MESH] OR CHANGE MANAGEMENT*[TIAB]) OR (BEHAVIOUR CHANGE*[TIAB] OR BEHAVIORAL CHANGE*[TIAB] OR BEHAVIOURAL CHANGE*[TIAB]) OR (BEHAVIOR CHANGE*[TIAB]) OR ("QUALITY INDICATORS, HEALTH CARE"[MESH:noexp] OR HEALTHCARE QUALITY INDICATOR*[TIAB] OR HEALTH CARE QUALITY INDICATOR*[TIAB] OR HEALTH METRIC*[TIAB] OR "STANDARD OF CARE"[TW]) OR ((WARD INFECTION*[TIAB] OR HAI[TIAB] OR HAIS[TIAB]) OR ((HEALTH CARE ACQUIRED INFECTION*[TIAB] OR HEALTHCARE ACQUIRED INFECTION*[TIAB]) OR (("CROSS INFECTION"[MESH] OR CROSS INFECTION*[TIAB] OR HEALTH CARE ASSOCIATED INFECTION*[TIAB] OR HEALTHCARE ASSOCIATED INFECTION*[TIAB] OR HOSPITAL INFECTION*[TIAB] OR NOSOCOMIAL INFECTION*[TIAB]) OR ("IATROGENIC DISEASE"[MESH] OR IATROGENIC*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR INFECTION CONTROL[TIAB] OR PATHOGEN CONTAINMENT*[TIAB] OR "EPIDEMIOLOGY"[MESH:noexp] OR SURVEILLANCE*[TW])))

EMBASE

('hand washing'/exp OR 'hand washing':ti,ab OR 'hand hygiene':ti,ab OR 'hand disinfection':ti,ab OR 'hand sanitizer'/exp OR 'hand sanitizer':ti,ab OR 'hand sanitiser':ti,ab OR 'hand cleansing':ti,ab,de OR 'hand drying':ti,ab,de OR 'hand sanitization' OR 'hand sanitasation':ti,ab,de OR handscrubbing:ti,ab,de OR 'surgical scrubbing':ti,ab,de OR 'hand washing':ti,ab,de OR 'hand antiseptic':ti,ab,de OR 'hand anti-septic':ti,ab,de OR 'washing hands':ti,ab,de OR 'cleaning hands':ti,ab,de OR 'hand rub':ti,ab,de OR handrub*:ti,ab,de OR 'hand scrub':ti,ab,de OR 'hand decontamination':ti,ab,de OR 'surgical rub':ti,ab,de OR 'preoperative scrub':ti,ab,de OR 'pre-operative scrub':ti,ab,de OR 'scrubbing technique':ti,ab,de OR 'scrub technique':ti,ab,de OR 'scrubbing method':ti,ab,de OR 'scrub method':ti,ab,de) AND [english]/lim AND [1-6-2012]/sd NOT [31-8-2021]/sd NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('letter'/exp OR 'editorial'/exp OR 'case report'/exp) AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('article'/it OR 'article in press'/it) AND ('protocol compliance'/exp OR 'protocol compliance':ti,ab OR 'guideline adherence':ti,ab OR 'guideline compliance':ti,ab OR 'adherence to protocol':ti,ab OR 'compliance to protocol':ti,ab OR 'procedural adherence':ti,ab OR 'procedural compliance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR bundle*:ti,ab OR implement*:ti,ab OR 'prevention and control'/exp OR strateg*:ti,ab OR (reduc* NEAR/3 infection*) OR 'prophylaxis'/de OR prophyla*:ti,ab OR 'modifiable risk factor'/exp OR 'modifiable risk factor':ti,ab OR 'early removal':ti,ab OR intervention*:ti,ab OR 'total quality management'/exp OR 'quality improvement':ti,ab OR 'quality management':ti,ab OR improve*:ti,ab OR 'antimicrobial stewardship'/exp OR 'antimicrobial stewardship':ti,ab OR 'antibiotic stewardship':ti,ab OR 'clinical protocol'/de OR 'clinical protocol':ti,ab OR 'clinical protocols':ti,ab OR 'treatment protocol':ti,ab OR 'treatment protocols':ti,ab OR 'clinical pathway'/exp OR 'clinical pathway':ti,ab OR 'clinical pathways':ti,ab OR 'critical pathway':ti,ab OR 'best practice alert':ti,ab OR 'decision support system'/exp OR 'decision support technique':ti,ab OR 'risk prediction model'/exp OR 'risk prediction':ti,ab OR 'enhanced recovery pathway'/exp OR 'enhanced recovery pathway':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery program':ti,ab OR 'enhanced recovery programme':ti,ab OR ('evidence based' NEAR/3 method*) OR prevent*:de,ti,ab OR 'surveillance and monitoring'/exp OR surveillance*:ti,ab OR feedback:ti,ab,de OR 'monitoring'/de OR monitor:ti,ab OR 'change management'/exp OR 'change management':ti,ab OR 'behavior change'/exp OR 'behavior change':ti,ab OR 'behaviour change':ti,ab OR 'behavioral change':ti,ab OR 'behavioural change':ti,ab OR 'health care quality'/exp OR 'health care quality':ti,ab OR 'quality indicators':ti,ab,de OR 'standard of care':ti,ab OR 'hospital infection'/exp OR 'ward infection':ti,ab OR hai:ti,ab OR hais:ti,ab OR 'hospital acquired infection':ti,ab OR 'hospital acquired infections':ti,ab OR 'hospital associated infection':ti,ab OR 'hospital-associated infection':ti,ab OR 'cross infection'/exp OR 'cross infection':ti,ab OR 'healthcare associated infection':ti,ab OR 'health-care associated infection':ti,ab OR 'health care associated infection':ti,ab OR 'hospital infection':ti,ab OR 'nosocomial infection':ti,ab OR 'iatrogenic disease'/de OR iatrogenic:ti,ab OR 'infection control'/de OR 'infection control':ti,ab OR 'pathogen containment':ti,ab OR 'surveillance'/exp OR 'surveillance':ti,ab OR 'epidemiology'/de OR epidemiol*:ti,ab) AND ('hospital'/exp OR hospital*:ti,ab OR 'tertiary care center'/exp OR 'tertiary care':ti,ab OR 'hospital patient'/exp OR 'secondary care center'/exp OR 'secondary care':ti,ab OR 'acute care':ti,ab OR (('intensive care unit'/exp OR 'intensive care':ti,ab OR icu) AND ti,ab) OR icus:ti,ab OR 'critical care unit':ti,ab OR 'critical care units':ti,ab OR nicu:ti,ab OR picu:ti,ab OR pacu:ti,ab OR 'coronary care unit'/exp OR 'coronary care':ti,ab OR 'medical centers'/exp OR 'medical centers':ti,ab OR 'medical center':ti,ab OR 'medical centre':ti,ab OR 'medical centres':ti,ab OR 'recovery room'/exp OR 'recovery room':ti,ab OR 'postanesthesia care':ti,ab OR 'post-anesthesia care':ti,ab OR 'operating room'/exp OR 'operating room':ti,ab OR 'operating theater':ti,ab OR 'operating theatre':ti,ab OR 'operation room':ti,ab OR 'operation theater':ti,ab OR 'delivery

room'/exp OR 'delivery room':ti,ab OR 'surgical ward'/exp OR 'surgical ward':ti,ab OR 'surgery unit':ti,ab OR 'surgery ward':ti,ab OR 'medical unit':ti,ab OR 'medicine unit':ti,ab OR 'medical surgical unit':ti,ab OR 'med-surg':ti,ab OR 'burn unit':ti,ab OR 'respiratory care unit':ti,ab OR 'stroke unit'/exp OR 'stroke care unit':ti,ab OR 'ward'/exp OR 'oncology ward'/exp OR 'cancer care unit':ti,ab OR 'cancer unit':ti,ab OR 'cancer ward':ti,ab OR 'oncology unit':ti,ab OR 'oncology ward':ti,ab OR 'transplant unit':ti,ab OR 'transplantation unit':ti,ab OR 'intermediate care unit'/exp OR 'intermediate care unit':ti,ab OR imcu:ti,ab OR 'pediatric ward'/exp OR 'pediatric ward':ti,ab OR 'pediatric unit':ti,ab OR 'paediatric ward':ti,ab OR 'paediatric unit':ti,ab OR multicenter*:ti,ab OR 'multi-center':ti,ab OR multicentre:ti,ab OR 'multi-centre':ti,ab OR 'trauma center':ti,ab OR 'trauma centre':ti,ab OR 'single center':ti,ab OR 'single centre':ti,ab OR 'hemodialysis'/exp OR 'hemodialysis':ti,ab OR 'ambulatory care'/exp OR ambulatory:ti,ab OR 'outpatient care'/exp OR outpatient:ti,ab,de OR 'long term care facility'/exp OR 'long term care':ti,ab OR 'nursing home'/exp OR 'nursing home':ti,ab OR 'extended care':ti,ab OR 'convalescence home':ti,ab OR 'rehabilitation facility':ti,ab OR 'intermediate care':ti,ab OR 'nursing homes':ti,ab OR 'skilled nursing':ti,ab OR 'subacute care'/exp OR 'subacute care':ti,ab OR 'post-acute care':ti,ab OR 'sub-acute care':ti,ab)

No articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021)

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent *Clostridioides difficile* infections in acute care hospitals: 2022 Update

Kociolek L, Gerding D, Carrico R, Carling P, Donskey C, Dumyati G, Kuhar D, Loo V, Maragakis L, Pogorzelska-Maziarz M, Sandora T, Weber D, Yokoe D, Dubberke E. Strategies to prevent *Clostridioides difficile* infections in acute-care hospitals: 2022 Update. *Infection Control & Hospital Epidemiology*. 2023;44:527-549. doi:10.1017/ice.2023.18

June 2012-July 2019	Time period 1
2252	PubMed and Embase retrievals (run October 2019)
348	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
1904	Studies imported to Covidence for screening; 0 duplicates removed
1727	Studies excluded (double-blind screening by authors)
114	Full-text studies screened
July 2019-August 2021	Time period 2
765	PubMed and Embase retrievals (run August 2021)
152	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
613	Studies imported for screening; 0 duplicates removed
548	Studies excluded (single screening by lead authors)
65	Full-text studies screened
167	Articles cited in manuscript

Search Strategies: PubMed and Embase

PUBMED

(MULTICENTER*[TIAB] OR MULTI-CENTER*[TIAB] OR MULTICENTRE*[TIAB] OR MULTI-CENTRE*[TIAB] OR HEALTHCARE SYSTEM*[TIAB] OR HEALTH CARE SYSTEM*[TIAB] OR POSTOPERATIVE CARE[MH] OR PREOPERATIVE CARE[MH] OR SINGLE CENTER*[TIAB] OR SINGLE CENTRE*[TIAB] OR TRAUMA CENTER*[TIAB] OR TRAUMA CENTRE*[TIAB] OR "OUR INSTITUTION"[TIAB] OR "RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE*[TW] OR TERTIARY REFERRAL CENTER*[TIAB] OR

TERTIARY REFERRAL CENTRE*[TIAB] OR TERTIARY HEALTHCARE[TW] OR TERTIARY HEALTH CARE[TIAB] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR ONCOLOGY UNIT*[TIAB] OR CANCER WARD*[TIAB] OR CANCER UNIT*[TIAB] OR ONCOLOGY WARD*[TIAB] OR TRANSPLANT UNIT*[TIAB] OR TRANSPLANTATION UNIT*[TIAB] OR ACUTE CARE*[TIAB] OR OPERATING THEATER*[TIAB] OR OPERATING THEATRE*[TIAB] OR SURGICAL WARD*[TIAB] OR CANCER CARE UNIT*[TIAB] OR DELIVERY ROOM*[TIAB] OR "LABOR AND DELIVERY"[TIAB] OR SECONDARY CARE CENTER*[TW] OR SECONDARY CARE CENTRE*[TIAB] OR PEDIATRIC UNIT*[TIAB] OR PAEDIATRIC UNIT*[TIAB] OR PAEDIATRIC WARD*[TIAB] OR EMERGENCY DEPARTMENT*[TIAB] OR EMERGENCY UNIT*[TIAB] OR EMERGENCY WARD*[TIAB] OR EMERGENCY ROOM*[TIAB] OR CARDIOLOGY UNIT*[TIAB] OR HEART CENTER*[TIAB] OR HEART CENTRE*[TIAB] OR INTERMEDIATE CARE UNIT*[TIAB] OR MATERNITY WARD*[TIAB] OR HEALTH CENTER*[TIAB] OR HEALTH CENTRE*[TIAB] OR HEALTH SYSTEM*[TIAB] OR HEALTHCARE FACILIT*[TIAB] OR HEALTH CARE FACILIT*[TIAB]) AND ((((((DIFFICILIS[TIAB] OR DIFFICILE[TW] OR "C.DIFF"[TIAB] OR "C DIFF"[TIAB] OR "C-DIFF"[TIAB])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) NOT (REVIEW[PT])) OR ((((((DIFFICILIS[TIAB] OR DIFFICILE[TW] OR "C.DIFF"[TIAB] OR "C DIFF"[TIAB] OR "C-DIFF"[TIAB])) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT])) AND (("2012/06/01"[PDat] : "2021/08/31"[PDat]) AND English[lang])) AND (SYSTEMATIC REVIEW*[PT])) AND (("Cross Infection"[Mesh] OR NOSOCOMIAL[TIAB] OR HOSPITAL ASSOCIATED[TIAB] OR HOSPITAL ACQUIRED[TIAB] OR HEALTHCARE ASSOCIATED[TIAB] OR HEALTHCARE ACQUIRED[TIAB] OR HEALTH CARE ASSOCIATED[TIAB] OR HEALTH CARE ACQUIRED[TIAB] OR HAI[TIAB] OR PROPHYLA*[TW] AND "Disease Transmission, Infectious"[Mesh] OR TRANSMISSION[TIAB] OR "Universal Precautions"[Mesh] OR UNIVERSAL PRECAUTIONS[TIAB] OR CONTACT PRECAUTIONS[TIAB] OR "Patient Isolation"[Mesh] OR ISOLAT*[TIAB] OR "Probiotics"[Mesh] OR PROBIOTIC*[TIAB] OR "Carrier State"[Mesh] OR CARRIER*[TIAB] OR COLONIZATION[TW] OR COLONISATION[TIAB] OR "Hydrogen Peroxide"[Mesh] OR HYDROGEN PEROXIDE[TIAB] OR Hydroperoxide[TIAB] OR Superoxol[TIAB] OR Oxydol[TIAB] OR Perhydrol[TIAB] OR "Ultraviolet Rays"[Mesh] OR ULTRAVIOLET[TIAB] OR ULTRA VIOLET[TIAB] OR UV RADIATION[TIAB] OR CLEANING[TW] OR DISINFECTION[MH] OR DISINFECTION[TIAB] OR "QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR "EVIDENCE-BASED MEDICINE/METHODS"[MESH] OR "EVIDENCE-BASED PRACTICE/METHODS"[MESH] OR HAND CLEANSING[TIAB] OR HAND DRYING[TIAB] OR HAND SANITAT*[TIAB] OR HANDSCRUBBING[TIAB] OR "HAND HYGIENE"[MESH] OR HAND HYGIENE*[TIAB] OR HAND DISINFECT*[TW] OR SURGICAL SCRUBBING[TIAB] OR HANDWASHING*[TIAB] OR HAND WASHING*[TIAB] OR "HAND SANITIZERS"[MESH] OR HAND SANITIZER*[TIAB] OR HAND SANITISER*[TIAB] OR HAND ANTISEP*[TIAB] OR HAND ANTI-SEP*[TIAB] OR WASHING HANDS[TIAB] OR CLEANING HANDS[TIAB] OR HAND RUB*[TIAB] OR HANDRUB*[TIAB] OR HAND SCRUB*[TIAB] OR HAND DECONTAMIN*[TIAB] OR SURGICAL RUB*[TIAB] OR PREOPERATIVE SCRUB*[TIAB] OR PRE-OPERATIVE SCRUB*[TIAB] OR SCRUBBING TECHNIQUE*[TIAB] OR SCRUB TECHNIQUE*[TIAB] OR SCRUBBING METHOD*[TIAB] OR SCRUB METHOD*[TIAB]) OR ((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB]))))

EMBASE

(('clostridioides difficile'/exp OR 'clostridioides difficile':ti,ab OR difficile:ti,ab OR difficilis:ti,ab OR 'c.diff':ti,ab OR 'c diff':ti,ab OR 'c-diff':ti,ab) AND [english]/lim AND [1-6-2012]/sd NOT [31-8-2021]/sd NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('editorial'/exp OR 'letter'/exp OR 'case report'/exp) AND 'systematic review'/exp OR (('clostridioides difficile'/exp OR 'clostridioides difficile':ti,ab OR difficile:ti,ab OR difficilis:ti,ab OR 'c.diff':ti,ab OR 'c diff':ti,ab

OR 'c-diff':ti,ab) AND [english]/lim AND [1-6-2012]/sd NOT [31-8-2021]/sd NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('editorial'/exp OR 'letter'/exp OR 'case report'/exp) NOT 'review'/de)) AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('article'/it OR 'article in press'/it) AND ('epidemic'/exp OR epidemic*:ti,ab,de OR outbreak*:ti,ab OR 'endemic disease'/exp OR endemic:ti,ab OR cluster*:ti,ab OR 'pseudo outbreak':ti,ab OR 'pseudo-outbreak':ti,ab OR 'pseudo-outbreaks':ti,ab OR (('disease transmission' OR transmission*) NEAR/3 risk*) OR 'biofilm'/exp OR 'biofilm':ti,ab OR 'bio film*':ti,ab OR 'hand washing'/exp OR 'hand washing':ti,ab OR 'hand hygiene':ti,ab OR 'hand disinfection':ti,ab OR 'hand sanitizer'/exp OR 'hand sanitizer':ti,ab OR 'hand sanitiser':ti,ab OR 'hand cleansing':ti,ab,de OR 'hand drying':ti,ab,de OR 'hand sanitization' OR 'hand sanitasation':ti,ab,de OR handscrubbing:ti,ab,de OR 'surgical scrubbing':ti,ab,de OR 'hand washing':ti,ab,de OR 'hand antiseptic':ti,ab,de OR 'hand anti-septic':ti,ab,de OR 'washing hands':ti,ab,de OR 'cleaning hands':ti,ab,de OR 'hand rub':ti,ab,de OR handrub*:ti,ab,de OR 'hand scrub':ti,ab,de OR 'hand decontamination':ti,ab,de OR 'surgical rub':ti,ab,de OR 'preoperative scrub':ti,ab,de OR 'pre-operative scrub':ti,ab,de OR 'scrubbing technique':ti,ab,de OR 'scrub technique':ti,ab,de OR 'scrubbing method':ti,ab,de OR 'scrub method':ti,ab,de OR 'health care quality'/exp OR 'health care quality':ti,ab OR 'protocol compliance'/exp OR 'protocol compliance':ti,ab OR 'guideline adherence':ti,ab OR 'guideline compliance':ti,ab OR 'adherence to protocol':ti,ab OR 'compliance to protocol':ti,ab OR 'procedural adherence':ti,ab OR 'procedural compliance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR bundle*:ti,ab OR implement*:ti,ab OR 'infection control'/de OR 'infection control':ti,ab OR 'prevention and control'/exp OR strateg*:ti,ab OR (reduc* NEAR/3 infection*) OR 'prophylaxis'/de OR prophyla*:ti,ab OR 'modifiable risk factor'/exp OR 'modifiable risk factor':ti,ab OR intervention*:ti,ab OR 'total quality management'/exp OR 'quality improvement':ti,ab OR 'quality management':ti,ab OR improve*:ti,ab OR 'antimicrobial stewardship'/exp OR 'antimicrobial stewardship':ti,ab OR 'antibiotic stewardship':ti,ab OR 'clinical protocol'/de OR 'clinical protocol':ti,ab OR 'clinical protocols':ti,ab OR 'treatment protocol':ti,ab OR 'treatment protocols':ti,ab OR 'clinical pathway'/exp OR 'clinical pathway':ti,ab OR 'clinical pathways':ti,ab OR 'critical pathway':ti,ab OR 'best practice alert':ti,ab OR 'decision support system'/exp OR 'decision support technique':ti,ab OR 'enhanced recovery pathway'/exp OR 'enhanced recovery pathway':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery program':ti,ab OR 'enhanced recovery programme':ti,ab OR ('evidence based' NEAR/3 method*) OR prevent*:de,ti,ab OR 'surveillance and monitoring'/exp OR 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OR 'hospital patient'/exp OR 'secondary care center'/exp OR 'secondary care':ti,ab OR 'acute care':ti,ab OR (('intensive care unit'/exp OR 'intensive care':ti,ab OR icu) AND ti,ab) OR icus:ti,ab OR 'critical care unit':ti,ab OR 'critical care units':ti,ab OR nicu:ti,ab OR picu:ti,ab OR pacu:ti,ab OR 'coronary care unit'/exp OR 'coronary care':ti,ab OR 'medical centers'/exp OR 'medical centers':ti,ab OR 'medical center':ti,ab OR 'medical centre':ti,ab OR 'medical centres':ti,ab OR 'recovery room'/exp OR 'recovery room':ti,ab OR 'postanesthesia care':ti,ab OR 'post-anesthesia care':ti,ab OR 'operating room'/exp OR 'operating room':ti,ab OR 'operating theater':ti,ab OR 'operating theatre':ti,ab OR 'operation room':ti,ab OR 'operation theater':ti,ab OR 'delivery room'/exp OR 'delivery room':ti,ab OR 'surgical ward'/exp OR 'surgical ward':ti,ab OR 'surgery unit':ti,ab OR 'surgery ward':ti,ab OR 'medical unit':ti,ab OR 'medicine unit':ti,ab OR 'medical surgical unit':ti,ab OR 'med-surg':ti,ab OR 'burn unit':ti,ab OR 'respiratory care unit':ti,ab OR 'stroke unit'/exp OR 'stroke care unit':ti,ab OR 'ward'/exp OR 'oncology ward'/exp OR 'cancer care unit':ti,ab OR 'cancer unit':ti,ab OR 'cancer ward':ti,ab OR 'oncology unit':ti,ab OR 'oncology ward':ti,ab OR 'transplant unit':ti,ab OR 'transplantation unit':ti,ab OR 'intermediate care unit'/exp OR 'intermediate care unit':ti,ab OR imcu:ti,ab OR 'pediatric ward'/exp OR 'pediatric ward':ti,ab OR 'pediatric unit':ti,ab OR 'paediatric ward':ti,ab OR 'paediatric unit':ti,ab OR multicenter*:ti,ab OR 'multi-center':ti,ab OR multicentre:ti,ab OR 'multi-centre':ti,ab OR 'trauma center':ti,ab OR 'trauma centre':ti,ab OR 'single center':ti,ab OR 'single centr

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021) (list does not include grey literature):

75. Johnson S, Lavergne V, Skinner AM, et al. Clinical Practice Guideline by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): 2021 Focused Update Guidelines on Management of Clostridioides difficile Infection in Adults. Clinical infectious diseases: an official publication of the Infectious Diseases Society of America. Sep 7 2021;73:e1029-e1044.

150. Maraolo AE, Mazzitelli M, Zappulo E, et al. Oral Vancomycin Prophylaxis for Primary and Secondary Prevention of Clostridioides difficile Infection in Patients Treated with Systemic Antibiotic Therapy: A Systematic Review, Meta-Analysis and Trial Sequential Analysis. Antibiotics (Basel). Jan 30 2022;11.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent surgical site infections in acute care hospitals: 2022 Update

Calderwood M, Anderson D, Bratzler D, Dellinger E, Garcia-Houchins S, Maragakis L, Nyquist A, Perkins K, Preas M, Saiman L, Schaffzin J, Schweizer M, Yokoe D, Kaye K. Strategies to prevent surgical site infections in acute-care hospitals: 2022 Update. Infection Control & Hospital Epidemiology. 2023;44:695-720. doi:10.1017/ice.2023.67

June 2012-July 2019	Time period 1
3971	PubMed and Embase retrievals (run November 2019)
883	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
398	Systematic reviews and meta-analyses in separate library for screening by lead authors
2689	Studies imported to Covidence for screening; 0 duplicates removed
1365	Studies excluded (double-blind screening by authors)
1324	Full-text studies screened
July 2019-August 2021	Time period 2
1440	PubMed and Embase retrievals (run August 2021)
335	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
1105	Studies imported for screening; 0 duplicates removed
921	Studies excluded (single screening by lead authors)
184	Full-text studies screened
364	Articles cited in manuscript

Search Strategies: PubMed and Embase

PUBMED

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((((("SURGICAL WOUND INFECTION"[MESH] OR SURGICAL WOUND INFECTION*[TIAB] OR SURGICAL SITE INFECTION*[TIAB] OR POSTOPERATIVE WOUND INFECTION*[TIAB] OR POST-OPERATIVE WOUND INFECTION*[TIAB] AND ("2012/06/01"[PDAT] : "2019/12/31"[PDAT]) AND ENGLISH[LANG])) NOT (LETTER*[PT] OR COMMENT*[PT] OR EDITORIAL*[PT])) NOT ((NEONAT*[TI]) OR ("INFANT, NEWBORN"[MESH]) NOT ("INFANT, NEWBORN"[MESH]) AND (INFANT[MESH:NOEXP] OR CHILD[MESH] OR ADOLESCENT[MESH] OR ADULT[MESH]))) NOT ("ANIMALS"[MESH] NOT ("ANIMALS"[MESH] AND "HUMANS"[MESH])))
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AND

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((((SYSTEMATIC REVIEW[TI] OR SYSTEMATIC LITERATURE REVIEW[TI] OR SYSTEMATIC SCOPING REVIEW[TI] OR SYSTEMATIC NARRATIVE REVIEW[TI] OR SYSTEMATIC QUALITATIVE REVIEW[TI] OR SYSTEMATIC EVIDENCE REVIEW[TI] OR SYSTEMATIC QUANTITATIVE REVIEW[TI] OR SYSTEMATIC META-REVIEW[TI] OR SYSTEMATIC CRITICAL REVIEW[TI] OR SYSTEMATIC MIXED STUDIES REVIEW[TI] OR SYSTEMATIC MAPPING REVIEW[TI] OR SYSTEMATIC COCHRANE REVIEW[TI] OR (SYSTEMATIC SEARCH AND REVIEW[TI]) OR SYSTEMATIC INTEGRATIVE REVIEW[TI]) NOT COMMENT[PT] NOT (PROTOCOL[TI] OR
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PROTOCOLS[TI])) NOT MEDLINE[SUBSET]) OR (COCHRANE DATABASE SYST REV[TA] AND REVIEW[PT]) OR SYSTEMATIC REVIEW[PT]) OR (PRACTICE GUIDELINE[PUBLICATION TYPE] OR PRACTICE GUIDELINE*[TIAB] OR "CASE-CONTROL STUDIES"[MESH] OR CASE CONTROL[TIAB] OR CASE SERIES[TW] OR "COHORT STUDIES"[MESH] OR "OBSERVATIONAL STUDY"[PUBLICATION TYPE] OR COHORT*[TW] OR EPIDEMIOLOGIC METHODS[MH:NOEXP] OR FOLLOW UP STUDY[TW] OR FOLLOW UP STUDIES[TW] OR OBSERVATIONAL STUDY[TIAB] OR OBSERVATIONAL STUDIES[TIAB] OR LONGITUDINAL[TIAB] OR RETROSPECTIVE[TW] OR PROSPECTIVE[TW] OR CROSS SECTIONAL[TIAB] OR CROSS-SECTIONAL[TIAB] OR "CLINICAL TRIALS AS TOPIC"[MESH] OR RANDOM*[TIAB] OR PLACEBO*[TIAB] OR SINGLE BLIND*[TIAB] OR DOUBLE BLIND*[TIAB] OR TRIPLE BLIND*[TIAB] OR CLINICAL TRIAL[PT] OR CLINICAL TRIAL[TIAB]))))

AND

((("AIR MOVEMENTS"[MESH]) OR (TRAFFIC[TIAB]) OR (ENHANCED RECOVER*[TIAB]) OR (WOUND TREATMENT*[TIAB] OR WOUND THERAP*[TIAB]) OR ("WOUND HEALING"[MESH] AND MANAGEMENT[TIAB]) OR (WOUND MANAGEMENT[TIAB]) OR ("VENTILATION"[MESH] OR VENTILATION*[TIAB]) OR ("AIR CONDITIONING"[MESH] OR AIR CONDITION*[TIAB]) OR ("ENVIRONMENT, CONTROLLED"[MESH:NOEXP] OR CONTROLLED ENVIRONMENT*[TIAB] OR AIR FLOW[TIAB] OR AIR-FLOW[TIAB]) OR ("WOUND CLOSURE TECHNIQUES"[MESH] OR WOUND CLOSURE*[TIAB] OR SURGICAL CLOSURE*[TIAB]) OR ("THERAPEUTIC IRRIGATION"[MESH] OR IRRIGAT*[TIAB] OR LAVAGE*[TIAB] OR DOUCHING*[TIAB]) OR (WOUND POWDER*[TIAB]) OR (WOUND PROTECT*[TIAB]) OR ("GLYCATED HEMOGLOBIN A"[MESH] OR GLYCATED HEMOGLOBIN A[TIAB] OR A1C[TIAB] OR "HB A1A+B"[TIAB] OR HBA1[TIAB] OR GLYCOSYLATED HEMOGLOBIN A[TIAB] OR HB A1[TIAB] OR GLYCOHEMOGLOBIN A[TIAB] OR "HEMOGLOBIN A(1)"[TIAB] OR HB A1A-2[TIAB] OR GLYCATED A1A-2 HEMOGLOBIN[TIAB] OR GLYCOSYLATED A1A-1 HEMOGLOBIN[TIAB] OR HB A1A-1[TIAB] OR GLYCATED A1B HEMOGLOBIN[TIAB] OR HB A1B[TIAB] OR GLYCOSYLATED A1B HEMOGLOBIN[TIAB] OR GLYCATED HEMOGLOBINS[TIAB] OR GLYCOSYLATED HEMOGLOBIN[TIAB]) OR ("BLOOD GLUCOSE"[MESH] OR BLOOD GLUCOSE[TIAB] OR BLOOD SUGAR*[TIAB]) OR ("BODY TEMPERATURE"[MESH] OR TEMPERATURE*[TW] OR HYPOTHERM* [TW]) OR (OXYGENATION[TW] OR OXYGEN[TW]) OR ("HAIR REMOVAL"[MESH] OR HAIR REMOVAL*[TIAB] OR DEPILAT*[TIAB] OR EPILAT*[TIAB]) OR (DECOLONIZ*[TIAB] OR DE-COLONIZ*[TIAB]) OR ("ANTISEPSIS"[MESH] OR ANTI-SEPSIS[TIAB] OR ANTISEPSIS[TIAB]) OR ("CATHARTICS"[MESH] OR CATHARTIC*[TIAB] OR BOWEL EVACUANT*[TIAB] OR BOWEL PREP*[TIAB] OR PURGATIVE*[TIAB]) OR ("ANTIBIOTIC PROPHYLAXIS"[MESH] OR ANTIBIOTIC PROPHYLAXIS*[TIAB] OR ANTIBIOTIC PREMEDICAT*[TIAB] OR ANTIBIOTIC PRE-MEDICAT*[TIAB] OR ANTIMICROBIAL PROPHYL* [TIAB]) OR ("CHECKLIST"[MESH] OR CHECKLIST[TIAB]) OR (BUNDLE*[TIAB]) OR ("PRACTICE GUIDELINES AS TOPIC"[MESH] OR GUIDELINE*[TW] OR GUIDELINE*[PT]) OR (SURVEILLANCE[TW]))))

EMBASE

('care bundle'/exp OR bundle*:ti,ab OR 'practice guideline'/exp OR guideline*:ti,ab OR 'surveillance'/exp OR 'surveillance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR 'check lists':ti,ab OR 'antibiotic prophylaxis'/exp OR 'antibiotic prophylaxis':ti,ab OR 'antibiotic prevention':ti,ab OR 'antimicrobial prophylaxis':ti,ab OR 'intestine preparation'/exp OR 'intestine preparation':ti,ab OR 'bowel preparation':ti,ab OR 'bowel prep':ti,ab OR 'antiseptics'/exp OR antisept*:ti,ab OR 'decolonization'/exp OR 'decolonization':ti,ab OR 'decolonisation':ti,ab OR 'hair removal'/exp OR 'hair removal':ti,ab OR depilat*:ti,ab,de OR epilata*:ti,ab,de OR 'oxygenation'/exp OR 'oxygenation':ti,ab OR oxygen:ti,ab,de OR 'body temperature'/exp OR 'body temperature':ti,ab OR hypothermi*:ti,ab,de OR 'glucose blood level'/exp OR 'blood glucose':ti,ab OR 'blood sugar':ti,ab OR a1c:ti,ab OR 'hemoglobin a1c'/exp OR 'hemoglobin a1c':ti,ab OR 'hyperglycemia'/exp OR hyperglycem*:ti,ab OR hyperglycaem*:ti,ab OR 'wound protector'/exp OR 'wound protector':ti,ab OR 'wound protection':ti,ab OR 'powder'/exp OR powder*:ti,ab OR ('lavage':de AND exp) OR 'lavage':ti,ab,de OR irrigat*:ti,ab OR 'wound closure'/exp OR 'wound closure':ti,ab OR 'traffic'/de OR 'traffic':ti,ab OR 'patient transport'/exp OR 'patient transport':ti,ab OR 'air'/exp OR 'air movement':ti,ab OR 'air movements':ti,ab OR 'airflow':de OR airflow*:ti,ab OR 'air flow':ti,ab OR 'wound management'/exp OR 'wound management':ti,ab OR 'wound treatment':ti,ab OR 'wound therapy':ti,ab OR 'enhanced recovery'/exp OR 'enhanced recovery':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery after surgery'/exp) AND ('surgical infection'/exp OR 'surgical infection':ti,ab OR 'surgical wound infection':ti,ab OR 'surgical wound infections':ti,ab OR 'surgical site infection':ti,ab OR 'surgical site infections':ti,ab OR 'postoperative wound infection':ti,ab OR 'postoperative wound infections':ti,ab OR 'post-operative wound infection':ti,ab OR 'post-operative wound infections':ti,ab) NOT ('newborn'/exp OR neonat*:ti) AND [english]/lim NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('letter'/exp OR 'editorial'/exp) AND [1-6-2012]/sd NOT [8-11-2019]/sd AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('case study'/de AND 'case control study'/de OR 'clinical trial'/de OR 'cohort analysis'/de OR 'controlled clinical trial'/de OR 'controlled study'/de OR 'cross-

sectional study'/de OR 'meta analysis'/de OR 'observational study'/de OR 'practice guideline'/de OR 'prospective study'/de OR 'randomized controlled trial'/de OR 'retrospective study'/de OR 'systematic review'/de)

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021) (list does not include grey literature):

109. Li T, Zhang H, Chan PK, Fung WC, Fu H, Chiu KY. Risk factors associated with surgical site infections following joint replacement surgery: a narrative review. *Arthroplasty*. 2022;4:11.
119. Woodfield JC, Clifford K, Schmidt B, Turner GA, Amer MA, McCall JL. Strategies for Antibiotic Administration for Bowel Preparation Among Patients Undergoing Elective Colorectal Surgery: A Network Meta-analysis. *JAMA Surg*. 2022 Jan 1;157:34-41.
123. Lee JH, Ahn BK, Ryu J, Lee KH. Mechanical bowel preparation combined with oral antibiotics in colorectal cancer surgery: a nationwide population-based study. *Int J Colorectal Dis*. 2021;36:1929-35.
148. Hill AM, Pauls RN, Basil J, Tam T, Yook E, Shatkin-Margolis A, et al. Chlorhexidine Versus Iodine for Vaginal Preparation Before Hysterectomy: A Randomized Clinical Trial. *Female Pelvic Med Reconstr Surg*. 2022;28:77-84.
253. Shaffer SK, Tubog TD, Kane TD, Stortroen NE. Supplemental Oxygen and Surgical Site Infection in Colorectal Surgery: A Systematic Review and Meta-analysis. *Aana j*. 2021;89:245-53.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent methicillin-resistant *Staphylococcus aureus* in acute care hospitals: 2022 Update

Popovich K, Aureden K, Ham D, Harris A, Hessels A, Huang S, Maragakis L, Milstone A, Moody J, Yokoe D, Calfee D. Strategies to prevent methicillin-resistant *Staphylococcus aureus* transmission and infection in acute-care hospitals: 2022 Update. *Infection Control & Hospital Epidemiology*. 2023;44:1-32. doi: 10.1017/ice.2023.102

June 2012-July 2019	Time period 1
3768	PubMed and Embase retrievals (run November 2019)
897	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
2871	Studies imported to Covidence for screening; 0 duplicates removed
2160	Studies excluded (double-blind screening by authors)
706	Full-text studies screened
July 2019-August 2021	Time period 2
1105	PubMed and Embase retrievals (run August 2021)
361	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
844	Studies imported for screening; 0 duplicates removed
784	Studies excluded (single screening by lead authors)
60	Full-text studies screened
240	Articles cited in manuscript

Search Strategies: PubMed and Embase

PUBMED

(((((("METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS"[MESH] OR METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS[TIAB] OR METHICILLIN RESISTANT STAPH AUREUS[TIAB] OR MRSA[TIAB]) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]) AND (("2012/06/01"[PDat] : "2019/12/31"[PDat]) AND English[lang])) AND (((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])) OR (ACTIVE SURVEILLANCE[TIAB] OR COLONIZATION[TIAB] OR COLONISATION[TIAB] OR DECOLONIZATION[TIAB] OR DECOLONISATION[TIAB] OR "CHLORHEXIDINE"[MESH] OR CHLORHEXIDINE*[TIAB] OR SCREENING[TW] OR "UNIVERSAL PRECAUTIONS"[MESH] OR UNIVERSAL PRECAUTIONS[TIAB] OR CONTACT PRECAUTIONS[TIAB] OR "QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR 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MULTI-CENTER*[TIAB] OR MULTICENTRE*[TIAB] OR MULTI-CENTRE*[TIAB] OR HEALTHCARE SYSTEM*[TIAB] OR HEALTH CARE SYSTEM*[TIAB] OR POSTOPERATIVE CARE[MH] OR PREOPERATIVE CARE[MH] OR SINGLE CENTER*[TIAB] OR SINGLE CENTRE*[TIAB] OR TRAUMA CENTER*[TIAB] OR TRAUMA CENTRE*[TIAB] OR "OUR INSTITUTION"[TIAB] OR "RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE*[TW] OR TERTIARY REFERRAL CENTER*[TIAB] OR TERTIARY REFERRAL CENTRE*[TIAB] OR TERTIARY HEALTHCARE[TW] OR TERTIARY HEALTH CARE[TIAB] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR 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AUREUS[TIAB] OR MRSA[TIAB]) NOT (ANIMAL*[MH] NOT (ANIMAL*[MH] AND HUMAN*[MH]))) NOT (EDITORIAL*[PT] OR LETTER*[PT] OR COMMENT*[PT] OR CASE REPORT*[PT]) AND (("2012/06/01"[PDat] : "2019/12/31"[PDat]) AND English[lang])) AND (((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])) OR (ACTIVE SURVEILLANCE[TIAB] OR COLONIZATION[TIAB] OR COLONISATION[TIAB] OR DECOLONIZATION[TIAB] OR DECOLONISATION[TIAB] OR "CHLORHEXIDINE"[MESH] OR CHLORHEXIDINE*[TIAB] OR SCREENING[TW] OR "UNIVERSAL PRECAUTIONS"[MESH] OR UNIVERSAL PRECAUTIONS[TIAB] OR CONTACT PRECAUTIONS[TIAB] OR "QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PROPHYLA*[TW] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR

"ANTIMICROBIAL STEWARDSHIP"[MESH] OR ANTIMICROBIAL STEWARDSHIP*[TIAB] OR ANTIBIOTIC STEWARDSHIP*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR "EVIDENCE-BASED MEDICINE/METHODS"[MESH] OR "EVIDENCE-BASED PRACTICE/METHODS"[MESH])) AND (MULTICENTER*[TIAB] OR MULTI-CENTER*[TIAB] OR MULTICENTRE*[TIAB] OR MULTI-CENTRE*[TIAB] OR HEALTHCARE SYSTEM*[TIAB] OR HEALTH CARE SYSTEM*[TIAB] OR POSTOPERATIVE CARE[MH] OR PREOPERATIVE CARE[MH] OR SINGLE CENTER*[TIAB] OR SINGLE CENTRE*[TIAB] OR TRAUMA CENTER*[TIAB] OR TRAUMA CENTRE*[TIAB] OR "OUR INSTITUTION"[TIAB] OR "RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE*[TW] OR TERTIARY REFERRAL CENTER*[TIAB] OR TERTIARY REFERRAL CENTRE*[TIAB] OR TERTIARY HEALTHCARE[TW] OR TERTIARY HEALTH CARE[TIAB] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR ONCOLOGY UNIT*[TIAB] OR CANCER WARD*[TIAB] OR CANCER UNIT*[TIAB] OR ONCOLOGY WARD*[TIAB] OR TRANSPLANT UNIT*[TIAB] OR TRANSPLANTATION UNIT*[TIAB] OR ACUTE CARE*[TIAB] OR OPERATING THEATER*[TIAB] OR OPERATING THEATRE*[TIAB] OR SURGICAL WARD*[TIAB] OR CANCER CARE UNIT*[TIAB] OR DELIVERY ROOM*[TIAB] OR "LABOR AND DELIVERY"[TIAB] OR SECONDARY CARE CENTER*[TW] OR SECONDARY CARE CENTRE*[TIAB] OR PEDIATRIC UNIT*[TIAB] OR PAEDIATRIC UNIT*[TIAB] OR PAEDIATRIC WARD*[TIAB] OR EMERGENCY DEPARTMENT*[TIAB] OR EMERGENCY UNIT*[TIAB] OR EMERGENCY WARD*[TIAB] OR EMERGENCY ROOM*[TIAB] OR CARDIOLOGY UNIT*[TIAB] OR HEART CENTER*[TIAB] OR HEART CENTRE*[TIAB] OR INTERMEDIATE CARE UNIT*[TIAB] OR MATERNITY WARD*[TIAB] OR HEALTH CENTER*[TIAB] OR HEALTH CENTRE*[TIAB] OR HEALTH SYSTEM*[TIAB] OR HEALTHCARE FACILIT*[TIAB] OR HEALTH CARE FACILIT*[TIAB])) AND (SYSTEMATIC REVIEW[PT]))

EMBASE

('hospital'/exp OR hospital*:ti,ab OR 'tertiary care center'/exp OR 'tertiary care':ti,ab OR 'hospital patient'/exp OR 'secondary care center'/exp OR 'secondary care':ti,ab OR 'acute care':ti,ab OR (('intensive care unit'/exp OR 'intensive care':ti,ab OR icu) AND ti,ab) OR icus:ti,ab OR 'critical care unit':ti,ab OR 'critical care units':ti,ab OR nicu:ti,ab OR picu:ti,ab OR pacu:ti,ab OR 'coronary care unit'/exp OR 'coronary care':ti,ab OR 'medical centers'/exp OR 'medical centers':ti,ab OR 'medical center':ti,ab OR 'medical centre':ti,ab OR 'medical centres':ti,ab OR 'recovery room'/exp OR 'recovery room':ti,ab OR 'postanesthesia care':ti,ab OR 'post-anesthesia care':ti,ab OR 'operating room'/exp OR 'operating room':ti,ab OR 'operating theater':ti,ab OR 'operating theatre':ti,ab OR 'operation room':ti,ab OR 'operation theater':ti,ab OR 'delivery room'/exp OR 'delivery room':ti,ab OR 'surgical ward'/exp OR 'surgical ward':ti,ab OR 'surgery unit':ti,ab OR 'surgery ward':ti,ab OR 'medical unit':ti,ab OR 'medicine unit':ti,ab OR 'medical surgical unit':ti,ab OR 'med-surg':ti,ab OR 'burn unit':ti,ab OR 'respiratory care unit':ti,ab OR 'stroke unit'/exp OR 'stroke care unit':ti,ab OR 'ward'/exp OR 'oncology ward'/exp OR 'cancer care unit':ti,ab OR 'cancer unit':ti,ab OR 'cancer ward':ti,ab OR 'oncology unit':ti,ab OR 'oncology ward':ti,ab OR 'transplant unit':ti,ab OR 'transplantation unit':ti,ab OR 'intermediate care unit'/exp OR 'intermediate care unit':ti,ab OR imcu:ti,ab OR 'pediatric ward'/exp OR 'pediatric ward':ti,ab OR 'pediatric unit':ti,ab OR 'paediatric ward':ti,ab OR 'paediatric unit':ti,ab OR multicenter*:ti,ab OR 'multi-center':ti,ab OR multicentre:ti,ab OR 'multi-centre':ti,ab OR 'trauma center':ti,ab OR 'trauma centre':ti,ab OR 'single center':ti,ab OR 'single centre':ti,ab) AND ('methicillin resistant staphylococcus aureus'/exp OR 'methicillin resistant staphylococcus aureus':ti,ab OR 'methicillin resistant staph aureus':ti,ab OR mrsa:ti,ab) NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('letter'/exp OR 'editorial'/exp OR 'case report'/exp) AND [1-6-2012]/sd NOT [24-11-2019]/sd AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('article'/it OR 'article in press'/it) AND ('epidemic'/exp OR epidemic*:ti,ab,de OR outbreak*:ti,ab OR 'endemic disease'/exp OR endemic:ti,ab OR cluster*:ti,ab OR 'pseudo outbreak':ti,ab OR 'pseudo-outbreak':ti,ab OR 'pseudo-outbreaks':ti,ab OR (('disease transmission' OR transmission*) NEAR/3 risk*) OR 'biofilm'/exp OR 'biofilm':ti,ab OR 'bio film*':ti,ab OR 'health care quality'/exp OR 'health care quality':ti,ab OR 'protocol compliance'/exp OR 'protocol compliance':ti,ab OR 'guideline adherence':ti,ab OR 'guideline compliance':ti,ab OR 'adherence to protocol':ti,ab OR 'compliance to protocol':ti,ab OR 'procedural adherence':ti,ab OR 'procedural compliance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR bundle*:ti,ab OR implement*:ti,ab

OR 'infection control'/de OR 'infection control':ti,ab OR 'prevention and control'/exp OR strateg*:ti,ab OR (reduc* NEAR/3 infection*) OR 'prophylaxis'/de OR prophyla*:ti,ab OR 'modifiable risk factor'/exp OR 'modifiable risk factor':ti,ab OR 'early removal':ti,ab OR intervention*:ti,ab OR 'total quality management'/exp OR 'quality improvement':ti,ab OR 'quality management':ti,ab OR improve*:ti,ab OR 'antimicrobial stewardship'/exp OR 'antimicrobial stewardship':ti,ab OR 'antibiotic stewardship':ti,ab OR 'clinical protocol'/de OR 'clinical protocol':ti,ab OR 'clinical protocols':ti,ab OR 'treatment protocol':ti,ab OR 'treatment protocols':ti,ab OR 'clinical pathway'/exp OR 'clinical pathway':ti,ab OR 'clinical pathways':ti,ab OR 'critical pathway':ti,ab OR 'best practice alert':ti,ab OR 'decision support system'/exp OR 'decision support technique':ti,ab OR 'risk prediction model'/exp OR 'risk prediction':ti,ab OR 'enhanced recovery pathway'/exp OR 'enhanced recovery pathway':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery program':ti,ab OR 'enhanced recovery programme':ti,ab OR ('evidence based' NEAR/3 method*) OR prevent*:de,ti,ab OR 'surveillance and monitoring'/exp OR 'active surveillance':ti,ab OR 'contact precaution'/exp OR 'contact precaution':ti,ab OR 'contact precautions':ti,ab OR colonization*:ti,ab,de OR colonisation*:ti,ab OR decolonization*:ti,ab OR decolonisation*:ti,ab)

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (to Aug. 2021) (list does not include grey literature):

58. Wolfensberger A, Mang N, Gibson KE, et al. Understanding short-term transmission dynamics of methicillin-resistant *Staphylococcus aureus* in the patient room. *Infect Control Hosp Epidemiol*. Sep 2022;43:1147-1154.

66. Weiner-Lastinger LM, Pattabiraman V, Konnor RY, et al. The impact of coronavirus disease 2019 (COVID-19) on healthcare-associated infections in 2020: A summary of data reported to the National Healthcare Safety Network - ADDENDUM. *Infect Control Hosp Epidemiol*. Jan 2022;43:137.

The document also refers out to Calderwood et al (a section of the *Compendium: 2022 Updates*): 85. Calderwood MS, Anderson DJ, Bratzler DW, et al. Strategies to prevent surgical site infections in acute-care hospitals: 2022 Update. *Infection Control & Hospital Epidemiology*. 2023;44:695-720.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator

Strategies to prevent catheter-associated urinary tract infections in acute care hospitals: 2022 Update

Popovich K, Aureden K, Ham D, Harris A, Hessels A, Huang S, Maragakis L, Milstone A, Moody J, Yokoe D, Calfee D. Strategies to prevent methicillin-resistant *Staphylococcus aureus* transmission and infection in acute-care hospitals: 2022 Update. *Infection Control & Hospital Epidemiology*. 2023;44:1-32. doi: 10.1017/ice.2023.102

June 2012-July 2019	Time period 1
1565	PubMed and Embase retrievals (run October 2019)
463	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
1470	Studies imported to Covidence for screening; 1 duplicate removed
785	Studies excluded (double-blind screening by authors)
367	Full-text studies screened
July 2019-August 2021	Time period 2
1061	PubMed and Embase retrievals (run August 2021)
293	Duplicates removed and studies excluded by consultant librarian according to non-medical/non-scientific screening criteria
768	Studies imported for screening; 0 duplicates removed
622	Studies excluded (single screening by lead authors)
146	Full-text studies screened
192	Articles cited in manuscript

Search Strategies: PubMed and Embase

PUBMED

((((MULTICENTER*[TIAB] OR MULTI-CENTER*[TIAB] OR MULTICENTRE*[TIAB] OR MULTI-CENTRE*[TIAB] OR HEALTHCARE SYSTEM*[TIAB] OR HEALTH CARE SYSTEM*[TIAB] OR POSTOPERATIVE CARE[MH] OR PREOPERATIVE CARE[MH] OR SINGLE CENTER*[TIAB] OR SINGLE CENTRE*[TIAB] OR TRAUMA CENTER*[TIAB] OR TRAUMA CENTRE*[TIAB] OR "OUR INSTITUTION"[TIAB] OR "RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE*[TW] OR TERTIARY REFERRAL CENTER*[TIAB] OR TERTIARY REFERRAL CENTRE*[TIAB] OR TERTIARY HEALTHCARE[TW] OR TERTIARY HEALTH CARE[TIAB] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR ONCOLOGY UNIT*[TIAB] OR CANCER WARD*[TIAB] OR CANCER UNIT*[TIAB] OR ONCOLOGY WARD*[TIAB] OR TRANSPLANT UNIT*[TIAB] OR TRANSPLANTATION UNIT*[TIAB] OR ACUTE CARE*[TIAB] OR OPERATING THEATER*[TIAB] OR OPERATING THEATRE*[TIAB] OR SURGICAL WARD*[TIAB] OR CANCER CARE UNIT*[TIAB] OR DELIVERY ROOM*[TIAB] OR "LABOR AND DELIVERY"[TIAB] OR SECONDARY CARE CENTER*[TW] OR SECONDARY CARE CENTRE*[TIAB] OR PEDIATRIC UNIT*[TIAB] OR PAEDIATRIC UNIT*[TIAB] OR PAEDIATRIC WARD*[TIAB] OR EMERGENCY DEPARTMENT*[TIAB] OR EMERGENCY UNIT*[TIAB] OR EMERGENCY WARD*[TIAB] OR EMERGENCY ROOM*[TIAB] OR CARDIOLOGY UNIT*[TIAB] OR HEART CENTER*[TIAB] OR HEART CENTRE*[TIAB] OR INTERMEDIATE CARE UNIT*[TIAB] OR MATERNITY WARD*[TIAB] OR HEALTH CENTER*[TIAB] OR HEALTH CENTRE*[TIAB] OR HEALTH SYSTEM*[TIAB] OR HEALTHCARE FACILIT*[TIAB] OR HEALTH CARE FACILIT*[TIAB]) AND (((((URINE[TW] OR URINARY[TW] OR UTI[TIAB]) AND ("CATHETER-RELATED INFECTIONS"[MESH] OR CATHETER RELATED INFECTION*[TIAB] OR CATHETER ASSOCIATED INFECTION*[TIAB])) OR (CAUTI[TIAB] OR CAUTIS[TIAB]) OR (("CATHETERS"[MESH:noexp] OR CATHETER*[TIAB]) AND ("URINARY TRACT INFECTIONS"[MESH] OR URINARY TRACT INFECTION*[TIAB] OR UTI[TIAB] OR URINARY INFECTION*[TIAB] OR URINE INFECTION*[TIAB])) OR (("INFECTION"[MESH:noexp] OR INFECT*[TW]) AND (URINE[TW] OR URINARY[TW]) AND ("CATHETERS"[MESH:noexp] OR CATHETER*[TIAB])) OR (("URINARY CATHETERS"[MESH] OR URINARY CATHETER*[TIAB] OR "URINARY CATHETERIZATION"[MESH] OR FOLEY[TIAB] OR URETERAL CATHETER*[TIAB] OR URETHRAL CATHETER*[TIAB]) AND (("INFECTION"[MESH:noexp] OR INFECT*[TW] OR BACTERIAL INFECTIONS[MH])))) AND ((("2012/06/01"[PDat] : "2019/12/31"[PDat]) AND English[lang])) AND ((("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR ("EVIDENCE-BASED MEDICINE/METHODS"[MESH]) OR ("EVIDENCE-BASED PRACTICE/METHODS"[MESH])) OR ((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])))) NOT (REVIEW[PT])) OR ((MULTICENTER*[TIAB] OR MULTI-CENTER*[TIAB] OR MULTICENTRE*[TIAB] OR MULTI-CENTRE*[TIAB] OR HEALTHCARE SYSTEM*[TIAB] OR HEALTH CARE SYSTEM*[TIAB] OR POSTOPERATIVE CARE[MH] OR PREOPERATIVE CARE[MH] OR SINGLE CENTER*[TIAB] OR SINGLE CENTRE*[TIAB] OR TRAUMA CENTER*[TIAB] OR TRAUMA CENTRE*[TIAB] OR "OUR INSTITUTION"[TIAB] OR "RECOVERY ROOM"[MESH] OR RECOVERY ROOM*[TIAB] OR POST ANESTHESIA CARE*[TIAB] OR PACU[TIAB] OR OPERATING ROOM*[TW] OR SURGICAL UNIT*[TIAB] OR MEDICAL UNIT*[TIAB] OR MED-SURG*[TIAB] OR MEDICAL SURGICAL UNIT*[TIAB] OR "HOSPITALS"[MESH] OR HOSPITAL*[TW] OR HOSPITALIZATION[MESH] OR TERTIARY CARE*[TW] OR TERTIARY REFERRAL CENTER*[TIAB] OR TERTIARY REFERRAL CENTRE*[TIAB] OR TERTIARY HEALTHCARE[TW] OR TERTIARY HEALTH CARE[TIAB] OR "INTENSIVE CARE UNITS"[MESH] OR INTENSIVE CARE[TIAB] OR ICU[TIAB] OR ICUS[TIAB] OR CORONARY CARE[TW] OR PICU*[TIAB] OR BURN UNIT*[TW] OR RESPIRATORY CARE UNIT*[TW] OR NICU*[TIAB] OR CRITICAL CARE[TIAB] OR STROKE

UNIT*[TIAB] OR MEDICAL CENTER*[TW] OR MEDICAL CENTRE*[TIAB] OR ONCOLOGY UNIT*[TIAB] OR CANCER WARD*[TIAB] OR CANCER UNIT*[TIAB] OR ONCOLOGY WARD*[TIAB] OR TRANSPLANT UNIT*[TIAB] OR TRANSPLANTATION UNIT*[TIAB] OR ACUTE CARE*[TIAB] OR OPERATING THEATER*[TIAB] OR OPERATING THEATRE*[TIAB] OR SURGICAL WARD*[TIAB] OR CANCER CARE UNIT*[TIAB] OR DELIVERY ROOM*[TIAB] OR "LABOR AND DELIVERY"[TIAB] OR SECONDARY CARE CENTER*[TW] OR SECONDARY CARE CENTRE*[TIAB] OR PEDIATRIC UNIT*[TIAB] OR PAEDIATRIC UNIT*[TIAB] OR PAEDIATRIC WARD*[TIAB] OR EMERGENCY DEPARTMENT*[TIAB] OR EMERGENCY UNIT*[TIAB] OR EMERGENCY WARD*[TIAB] OR EMERGENCY ROOM*[TIAB] OR CARDIOLOGY UNIT*[TIAB] OR HEART CENTER*[TIAB] OR HEART CENTRE*[TIAB] OR INTERMEDIATE CARE UNIT*[TIAB] OR MATERNITY WARD*[TIAB] OR HEALTH CENTER*[TIAB] OR HEALTH CENTRE*[TIAB] OR HEALTH SYSTEM*[TIAB] OR HEALTHCARE FACILIT*[TIAB] OR HEALTH CARE FACILIT*[TIAB]) AND (((((URINE[TW] OR URINARY[TW] OR UTI[TIAB]) AND ("CATHETER-RELATED INFECTIONS"[MESH] OR CATHETER RELATED INFECTION*[TIAB] OR CATHETER ASSOCIATED INFECTION*[TIAB])) OR (CAUTI[TIAB] OR CAUTIS[TIAB]) OR (("CATHETERS"[MESH:noexp] OR CATHETER*[TIAB]) AND ("URINARY TRACT INFECTIONS"[MESH] OR URINARY TRACT INFECTION*[TIAB] OR UTI[TIAB] OR URINARY INFECTION*[TIAB] OR URINE INFECTION*[TIAB])) OR (("INFECTION"[MESH:noexp] OR INFECT*[TW]) AND (URINE[TW] OR URINARY[TW]) AND ("CATHETERS"[MESH:noexp] OR CATHETER*[TIAB])) OR (("URINARY CATHETERS"[MESH] OR URINARY CATHETER*[TIAB] OR "URINARY CATHETERIZATION"[MESH] OR FOLEY[TIAB] OR URETERAL CATHETER*[TIAB] OR URETHRAL CATHETER*[TIAB]) AND (((("INFECTION"[MESH:noexp] OR INFECT*[TW] OR BACTERIAL INFECTIONS[MH])) AND (("2012/06/01"[PDat] : "2019/12/31"[PDat]) AND English[lang])) AND (((("QUALITY ASSURANCE, HEALTH CARE"[MESH:noexp] OR "GUIDELINE ADHERENCE"[MESH] OR ADHERENCE[TIAB] OR COMPLIANCE[TIAB] OR "CHECKLIST"[MESH] OR CHECKLIST*[TIAB] OR BUNDLE*[TIAB] OR "HEALTH PLAN IMPLEMENTATION"[MESH] OR IMPLEMENT*[TIAB] OR "INFECTION CONTROL"[MESH:noexp] OR "PREVENTION AND CONTROL"[SUBHEADING] OR STRATEG*[TIAB] OR REDUC*[TIAB] OR PREVENT*[TW] OR MODIFIABLE RISK FACTOR*[TIAB] OR EARLY REMOVAL*[TIAB] OR INTERVENTION*[TIAB] OR "QUALITY IMPROVEMENT"[MESH] OR IMPROVE*[TIAB] OR "CLINICAL PROTOCOLS"[MESH:noexp] OR CLINICAL PROTOCOL*[TIAB] OR "CRITICAL PATHWAYS"[MESH] OR CRITICAL PATHWAY*[TIAB] OR CLINICAL PATHWAY[TIAB] OR CRITICAL PATHS[TIAB] OR CRITICAL PATH[TIAB] OR CLINICAL PATHS[TIAB] OR CLINICAL PATH[TIAB] OR "DECISION SUPPORT TECHNIQUES"[MESH:noexp] OR RISK PREDICTION MODEL*[TIAB] OR SURVEILLANCE*[TIAB] OR ENHANCED RECOVERY PATHWAY*[TIAB] OR "EVIDENCE-BASED NURSING/METHODS"[MESH] OR EVIDENCE BASED POLIC*[TIAB] OR ("EVIDENCE-BASED MEDICINE/METHODS"[MESH]) OR ("EVIDENCE-BASED PRACTICE/METHODS"[MESH])) OR ((ENDEMIC[TW] OR "DISEASE OUTBREAKS"[MESH] OR OUTBREAK*[TIAB] OR EPIDEMIC*[TW] OR CLUSTER*[TW] OR PSEUDO-OUTBREAK*[TIAB]) OR (RISK*[TW] AND ("DISEASE TRANSMISSION, INFECTIOUS"[MESH] OR TRANSMISSION*[TIAB])) OR ("BIOFILMS"[MESH] OR BIOFILM*[TIAB])))) AND (systematic[sb]))

EMBASE

Query((((('catheter infection' OR 'catheter infections' OR 'catheter-related infection' OR 'catheter-related infections' OR 'catheter-associated infection' OR 'catheter-associated infection') NEAR/3 urin*) OR cauti:ti,ab OR cautis:ti,ab OR (('catheter'/de OR catheter*:ti,ab) AND ('urinary tract infection'/de OR 'urinary tract infection':ti,ab OR 'urinary tract infections':ti,ab OR uti:ti,ab OR 'urinary infection':ti,ab OR 'urinary infections':ti,ab OR 'urine infection':ti,ab OR 'urine infections':ti,ab)) OR (('catheter'/de OR catheter*:ti,ab) AND ('infection'/de OR infect*:ti,ab) AND urin*:ti,ab,de) OR (infect*:ti,ab,de AND ('urinary catheter'/exp OR 'urinary catheter':ti,ab OR 'urinary catheters':ti,ab OR 'bladder catheterization'/exp OR 'bladder catheterization':ti,ab OR 'urinary catheterization':ti,ab OR 'urinary catheterisation':ti,ab OR 'bladder catheterisation':ti,ab OR foley:ti,ab OR 'ureteral catheter':ti,ab,de OR 'urethral catheter':ti,ab,de))) AND [english]/lim AND [1-6-2012]/sd NOT [21-10-2019]/sd NOT ('animal'/exp NOT ('animal'/exp AND 'human'/exp)) NOT ('letter'/exp OR 'editorial'/exp OR 'case report'/exp) AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND ('article'/it OR 'article in press'/it) AND ('health care quality'/exp OR 'health care quality':ti,ab OR 'protocol compliance'/exp OR 'protocol compliance':ti,ab OR 'guideline adherence':ti,ab OR 'guideline compliance':ti,ab OR 'adherence to protocol':ti,ab OR 'compliance to protocol':ti,ab OR 'procedural adherence':ti,ab OR 'procedural compliance':ti,ab OR 'checklist'/exp OR 'checklist':ti,ab OR 'check list':ti,ab OR bundle*:ti,ab OR implement*:ti,ab OR 'infection control'/de OR 'infection control':ti,ab OR 'prevention and control'/exp OR strateg*:ti,ab OR (reduc* NEAR/3 infection*) OR 'prophylaxis'/de OR prophyla*:ti,ab OR 'modifiable risk factor'/exp OR 'modifiable risk factor':ti,ab OR 'early removal':ti,ab OR intervention*:ti,ab OR 'total quality management'/exp OR 'quality improvement':ti,ab OR 'quality management':ti,ab OR improve*:ti,ab OR 'antimicrobial stewardship'/exp OR 'antimicrobial stewardship':ti,ab OR 'antibiotic stewardship':ti,ab OR 'clinical protocol'/de OR 'clinical protocol':ti,ab OR 'clinical protocols':ti,ab OR 'treatment protocol':ti,ab OR 'treatment protocols':ti,ab OR 'clinical pathway'/exp OR

'clinical pathway':ti,ab OR 'clinical pathways':ti,ab OR 'critical pathway':ti,ab OR 'best practice alert':ti,ab OR 'decision support system'/exp OR 'decision support technique':ti,ab OR 'risk prediction model'/exp OR 'risk prediction':ti,ab OR 'enhanced recovery pathway'/exp OR 'enhanced recovery pathway':ti,ab OR 'enhanced recovery program'/exp OR 'enhanced recovery program':ti,ab OR 'enhanced recovery programme':ti,ab OR ('evidence based' NEAR/3 method*) OR prevent*:de,ti,ab OR 'surveillance and monitoring'/exp OR surveillance*:ti,ab OR 'epidemic'/exp OR epidemic*:ti,ab,de OR outbreak*:ti,ab OR 'endemic disease'/exp OR endemic:ti,ab OR cluster*:ti,ab OR 'pseudo outbreak':ti,ab OR 'pseudo-outbreak':ti,ab OR 'pseudo-outbreaks':ti,ab OR (('disease transmission' OR transmission*) NEAR/3 risk*) OR 'biofilm'/exp OR 'biofilm':ti,ab OR 'bio film*':ti,ab) AND ('hospital'/exp OR hospital*:ti,ab OR 'tertiary care center'/exp OR 'tertiary care':ti,ab OR 'hospital patient'/exp OR 'secondary care center'/exp OR 'secondary care':ti,ab OR 'acute care':ti,ab OR (('intensive care unit'/exp OR 'intensive care':ti,ab OR icu) AND ti,ab) OR icu:ti,ab OR 'critical care unit':ti,ab OR 'critical care units':ti,ab OR nicu:ti,ab OR picu:ti,ab OR pacu:ti,ab OR 'coronary care unit'/exp OR 'coronary care':ti,ab OR 'medical centers'/exp OR 'medical centers':ti,ab OR 'medical center':ti,ab OR 'medical centre':ti,ab OR 'medical centres':ti,ab OR 'recovery room'/exp OR 'recovery room':ti,ab OR 'postanesthesia care':ti,ab OR 'post-anesthesia care':ti,ab OR 'operating room'/exp OR 'operating room':ti,ab OR 'operating theater':ti,ab OR 'operating theatre':ti,ab OR 'operation room':ti,ab OR 'operation theater':ti,ab OR 'delivery room'/exp OR 'delivery room':ti,ab OR 'surgical ward'/exp OR 'surgical ward':ti,ab OR 'surgery unit':ti,ab OR 'surgery ward':ti,ab OR 'medical unit':ti,ab OR 'medicine unit':ti,ab OR 'medical surgical unit':ti,ab OR 'med-surg':ti,ab OR 'burn unit':ti,ab OR 'respiratory care unit':ti,ab OR 'stroke unit'/exp OR 'stroke care unit':ti,ab OR 'ward'/exp OR 'oncology ward'/exp OR 'cancer care unit':ti,ab OR 'cancer unit':ti,ab OR 'cancer ward':ti,ab OR 'oncology unit':ti,ab OR 'oncology ward':ti,ab OR 'transplant unit':ti,ab OR 'transplantation unit':ti,ab OR 'intermediate care unit'/exp OR 'intermediate care unit':ti,ab OR imcu:ti,ab OR 'pediatric ward'/exp OR 'pediatric ward':ti,ab OR 'pediatric unit':ti,ab OR 'paediatric ward':ti,ab OR 'paediatric unit':ti,ab OR multicenter*:ti,ab OR 'multi-center':ti,ab OR multicentre:ti,ab OR 'multi-centre':ti,ab OR 'trauma center':ti,ab OR 'trauma centre':ti,ab OR 'single center':ti,ab OR 'single centre':ti,ab)

Articles cited in Section 4 (Essential and Additional Practices) that were retrieved beyond literature search time period (July 2021) (list does not include grey literature):

69. Leslie SW, Sajjad H, Sharma S. Prevention of Inappropriate Self-Extraction of Foley Catheters. StatPearls. 2022.

77. Claeys KC, Trautner BW, Leekha S, et al. Optimal Urine Culture Diagnostic Stewardship Practice- Results from an Expert Modified-Delphi Procedure. Clin Infect Dis. Nov 29 2021.

81. Huang A, Hong W, Zhao B, Lin J, Xi R, Wang Y. Knowledge, attitudes and practices concerning catheter-associated urinary tract infection amongst healthcare workers: a mixed methods systematic review. Nurs Open. Mar 2023;10:1281-1304.

84. Advani S, Vaughn VM. Quality Improvement Interventions and Implementation Strategies for Urine Culture Stewardship in the Acute Care Setting: Advances and Challenges. Curr Infect Dis Rep. Oct 2021;23.

85. Advani SD, Turner NA, Schmader KE, et al. Optimizing reflex urine cultures: Using a population-specific approach to diagnostic stewardship. Infect Control Hosp Epidemiol. Feb 2023;44:206-209.

103. Frontera JA, Wang E, Phillips M, et al. Protocolized Urine Sampling is Associated with Reduced Catheter-associated Urinary Tract Infections: A Pre- and Postintervention Study. Clin Infect Dis. Nov 2 2021;73:e2690-e2696.

Exclusion criteria: English language; articles with abstracts; exclusion of commentary, editorials, letters, articles without full text in English; relevance to topic, outcome, indication, intervention, setting, patient population, generalizability, comparator