

Draft Update to the Division of Healthcare Quality Promotion (DHQP) Recommendation Categorization Framework.

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Disclaimer: The findings and conclusions herein are draft and have not been formally disseminated by the Centers for Disease Control and Prevention and should not be construed to represent any agency determination or policy

CDC's Infection Control Guidelines for Healthcare Settings

Pre 1991 – No Methods – No Categories

- 1970, 1975: Isolation Techniques for Use in Hospitals
- 1981: Urinary Tract Infections
- 1981: Environmental Control
- 1981: Intravascular Infections
- 1982: Surgical Wound Infections
- 1982: Nosocomial Pneumonia
- 1983: Isolation Precautions
- 1983: Infection Control for Hospital Personnel
- 1985: Handwashing and Hospital Environmental Control
- 1985: Surgical Wound
- 1988: Surveillance Definitions for Nosocomial Infections

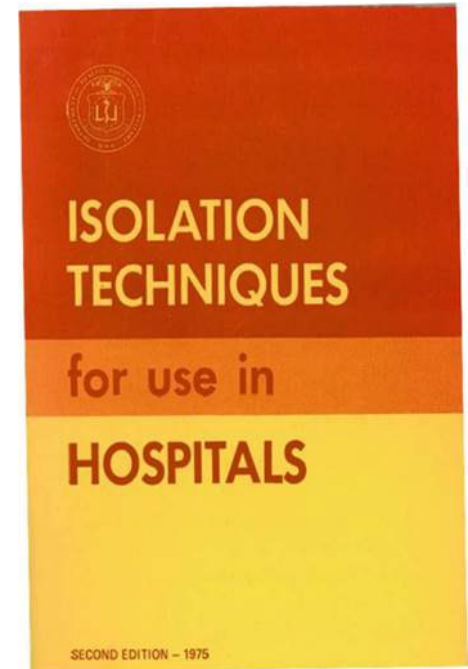


Image from DHQP Guideline Archives

CDC Infection Control Guidelines for Healthcare Settings: ~2000 Recommendations

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection
- 2020-2022 Prevention of Infections in Neonatal Intensive Care Units
- 2019 - 2025 Infection Control in Healthcare Personnel (in Progress –Evidence Informed update of 1998 Guideline)
- 2025 Isolation Precautions (in Progress – Evidence Informed update of 2007)

Guidelines with the Early DHQP & HICPAC Recommendation Scheme

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
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- 2025 Isolation Precautions (in Progress – Evidence Informed update of 2007)

Early DHQP & HICPAC Guideline Recommendation Categories 1991 - 2009

Category	Strength	Implication	Support
IA	Strong	Recommended for implementation	Strongly supported by well-designed experimental, clinical, or epidemiological studies
IB	Strong	Recommended for Implementation	Supported by some experimental, clinical, or epidemiological studies
IC	Strong	Required	State or federal regulations
II	Conditional/ Weak	Suggested for implementation	Suggestive clinical or epidemiological studies or theoretical rationale
No Rec	Unresolved issue	None	Insufficient evidence or no consensus on effectiveness/

Guidelines with the Early GRADE Era Recommendation Categories

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection
- 2020-2022 Prevention of Infections in Neonatal Intensive Care Units
- 2019 - 2025 Infection Control in Healthcare Personnel (in Progress –Evidence Informed update of 1998)
- 2025 Isolation Precautions (in Progress – Evidence Informed update of 2007)

Early GRADE Era DHQP & HICPAC Guideline Recommendation Categories: 2009 - 2017

Category	Strength	Implication	Support
IA	Strong	Recommended for implementation	High to moderate confidence in net benefits or harms
IB	Strong	Recommended for Implementation	Low to very low confidence in net benefits or harms for interventions considered standard practice
IC	Strong	Required	State or federal regulations with any confidence in net benefits or harms
II	Conditional/ Weak	Suggested for implementation	High to very low confidence in the tradeoffs between benefits and harms
No Rec	Unresolved issue	None	Low to very low confidence in uncertain tradeoffs between benefits and harms

Guidelines with the HICPAC Recommendation Categorization Scheme

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection
- 2017 Chlorhexidine-impregnated Dressing Recommendation Update
- 2020-2022 Prevention of Infections in Neonatal Intensive Care Units
- 2019 - 2025 Infection Control in Healthcare Personnel (in Progress –Evidence Informed update of 1998)
- 2025 Isolation Precautions (in Progress – Evidence Informed update of 2007)

HICPAC Recommendation Categorization Scheme 2017 – Present

Category/Strength	Implication	Support	Language & Format
Recommendation	Should implement	Benefits clearly exceed harms (or vice versa) with high to moderate quality and sometimes low-quality evidence or expert opinion	<ul style="list-style-type: none"> • Action verbs (e.g., use) • Should or should not • Recommend/ is recommended/ recommend against • Is or is not indicated
Conditional Recommendation	Consider implementing	Benefits <i>likely</i> exceed harms (or vice versa) with high- to very low-quality evidence.	Applies when relevant: <ul style="list-style-type: none"> • Consider • Could • May/ may consider
No Recommendation	None	Lack of evidence or unclear balance of benefits and harms	“No recommendation can be made”

HICPAC Recommendation Categorization Scheme 2017

– Present: Recommendation Justification

Component	Comments
Supporting evidence	<ul style="list-style-type: none">• X observational studies
Level of Confidence	Moderate confidence in the evidence
Benefits	Benefits from using the intervention
Risks and Harms	Harms from using the intervention
Resource Use	Human, material, and financial resources associated with intervention
Benefit-Harm Assessment	Balance of benefits & harms
Value Judgements	Value judgements made in formulating the recommendation
Intentional Vagueness	Identify where recommendation language was deliberately vague
Exceptions	Identify if there are exceptions to this recommendation

Current In Progress Guidelines:

- 2002 Hand Hygiene (Standard Precautions, 2007)
- 2003 Environmental Infection Control
- 2003 Pneumonia
- 2006 Multidrug-Resistant Organisms
- 2008 Disinfection and Sterilization
- 2009 Catheter-associated Urinary Tract Infections
- 2011 Intravascular Catheter-Related Infections
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection
- 2020-2022 Prevention of Infections in Neonatal Intensive Care Units (Evidence Based)
- 2019 - 2025 Infection Control in Healthcare Personnel (In Progress –Evidence Informed update of 1998 Guideline)
- 2025 Isolation Precautions (In Progress – Evidence Informed update of 2007 Guideline)

Challenges with the Current Scheme

- Implementation Challenges
 - The language, format, and sentence style is different from across recommendations & guideline documents.
 - It is not possible to update each of the 2000 recommendations using evidence-based methods in a timely manner
 - The categories offer no immediate differentiation of recommendations and how they're developed (have to go deep into the document).
- Methodologic Challenges
 - Expert opinion is the lens through which each recommendation is developed, not the rationale for the recommendation in the evidence-based era.
 - GRADE methods offer transparent methods by which expert experience can be captured and included.
- **There is a need for a category that differentiates methods used in developing recommendations.**

Planned Updates

- 2002 Hand Hygiene (Standard Precautions, 2007)
- **2003 Environmental Infection Control**
- *2003 Pneumonia*
- *2006 Multidrug-Resistant Organisms*
- **2008 Disinfection and Sterilization**
- *2009 Catheter-associated Urinary Tract Infections*
- *2011 Intravascular Catheter-Related Infections*
- 2011 Norovirus Gastroenteritis Outbreaks in Healthcare Settings
- 2017 Guideline for Prevention of Surgical Site Infection
- 2020-2022 Prevention of Infections in Neonatal Intensive Care Units (Evidence Based)
- 2019 - 2025 Infection Control in Healthcare Personnel (In Progress –Evidence Informed update of 1998 Guideline)
- 2025 Isolation Precautions (In Progress – Evidence Informed update of 2007)



DRAFT DHQP Guideline Recommendation Categories

Category	Definition	Support	Language & Format	Example
Recommendation	A statement for an intervention or practice where there is confidence that the benefits outweigh the harms (or vice versa).	<ul style="list-style-type: none"> Evidence is GRADED and there is high or moderate certainty in the evidence indicating a benefit (or harm). 	<ul style="list-style-type: none"> Start with an action verb (e.g., use, perform). Should be worded so that compliance with the recommendation can be measured 	Perform active surveillance testing for <i>S. aureus</i> colonization in neonatal intensive care unit patients when there is an increased incidence of <i>S. aureus</i> infection or in an outbreak setting. (Recommendation)
Conditional recommendation	A statement for an intervention or practice where there is low confidence that the benefits outweigh the harms (or vice versa).	Evidence is GRADED and there is: <ul style="list-style-type: none"> low certainty in the evidence indicating a benefit (or harm), or high- to moderate-certainty in the evidence suggesting a benefit (or harm). 	<ul style="list-style-type: none"> Do not start with an action verb. Soften action verbs by using words such as “could” or “may”. 	If active surveillance testing for <i>S. aureus</i> colonization in neonatal intensive care unit patients is implemented, facilities may test outborn infants or infants transferred from other newborn care units on admission to promptly identify newly admitted colonized patients. (Conditional Recommendation)

DRAFT DHQP Guideline Recommendation Categories

Category	Definition	Support	Language & Phrasing	Example
Unresolved Issue	<p>An unresolved issue is an intervention or practice for which use:</p> <ul style="list-style-type: none">• would result in unclear positive or negative consequences, or• is not deemed necessary for practice.	<p>Can include Interventions or practices for which:</p> <ul style="list-style-type: none">• there is low or very low confidence in evidence suggesting a benefit or harm,• the balance of benefits and harms is unclear despite the availability of or confidence in the evidence, or• no evidence is retrieved, and the intervention does not meet the criteria for a good practice statement.	<p>Specify:</p> <ul style="list-style-type: none">• appropriate PECOS elements where applicable, and• the topic remains an unresolved issue.	<p>For neonates with ongoing need for central venous access, whether to remove and replace a peripherally inserted central catheter (PICC) that has been in place for a prolonged period of time <u>solely for purposes of reducing central line-associated blood stream infection (CLABSIs)</u>, remains an unresolved issue.</p>

DRAFT DHQP Guideline Recommendation Categories

Confidence in Evidence	Balance of Evidence	Category
High or moderate	Indicates benefit or harm	Recommendation
Low	Indicates benefit or harm	Conditional Recommendation
High or moderate	Suggests benefit or harm	Conditional Recommendation
Very low	Suggests benefit or harm	Unresolved Issue
Low or very low	Suggests benefit or harm	Unresolved Issue
High to very low	Unclear balance of benefits and harm	Unresolved Issue

DRAFT DHQP Guideline Recommendation Categories

Category	Definition	Support	Articulation	Examples
Good Practice Statement¹	<p>A statement for an intervention or practice:</p> <ul style="list-style-type: none"> • where the evidence is not easily collected and summarized, or • Where clinicians could fail to make the appropriate decision if it is not made; and • after considering all relevant downstream consequences, implementing the recommendation would result in large net positive consequences. 	<p>This statement is not supported by GRADED evidence. These practices are often actions considered routine or accepted clinical practice or standard of care based on:</p> <ul style="list-style-type: none"> • expert experience collected from panel or committee members, • an existing recommendation (CDC or partner organization), • indirect evidence such as: <ul style="list-style-type: none"> • theory (e.g., animal studies), or • pharmacokinetic or mechanism of action data, or basic science studies. 	<ul style="list-style-type: none"> • Start with an action verb (e.g., use, perform). 	<p>For asymptomatic healthcare personnel without presumptive evidence of immunity to rubella who have an exposure to rubella, exclude from work from the 7th day after their first exposure through the 23rd day after their last exposure. (Good Practice Statement)</p>

Draft Implications of Recommendation Categories

Audience	Recommendation & Good Practice Statement	Conditional Recommendation
For patients	Most individuals in this situation would want the recommended course of action and only a small proportion would not.	Patients may want the recommended intervention, and this may be determined on a case-by-case basis using shared decision-making.
For facilities	Facilities should provide the resources necessary to implement these recommendations.	Facilities can decide on a case-by-case basis, whether to provide the resources necessary to implement these recommendations.
For clinicians	Most individuals should receive the recommended course of action. Adherence to this recommendation according to the guideline could be used as a quality criterion or performance indicator. Formal decision aids are not likely to be needed to help individuals make decisions consistent with their values and preferences.	<p>It is important to recognize:</p> <ul style="list-style-type: none"> • different choices will be appropriate for different patients, and different contexts, • you must help each patient arrive at a management decision consistent with her or his values and preferences, and • you should expect to spend more time with patients when working towards a shared decision.
For policy makers	The recommendation can be adapted as policy in most situations including for the use as performance indicators.	Policy making will require substantial debates and involvement of stakeholders. Policies are also more likely to vary between regions. Performance indicators would have to focus on the fact that adequate deliberation about the management options has taken place. Implementation considerations and decision guides will be helpful tools to aid in the application of these recommendations.

Next Steps

- *Incorporate feedback*
- *Draft publication for CDC Website*
- *Implement recommendation categories in:*
 - *Guidelines:*
 - *Update to the US Public Health Service Guideline for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis, 2025*

QUESTIONS?

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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Thank you!

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DRAFT DHQP Guideline Recommendation Categories: Defining Directionality

- **Indicates**

- Quantitative Summary/ Meta-analysis

- Statistically significant results (confidence intervals do not cross the null or one)
- Narrow measure of dispersion (confidence interval is not wide regardless of statistical significance and visual inspection reveals low dispersion of values)
- Low heterogeneity (visual inspection of study confidence intervals reveals strong overlap, or I^2 value is low)

- Narrative Summary

- The large preponderance of data points in one direction (measured by number of studies and the number of participants)
- Homogeneity of results (all studies point in the same direction)

DRAFT DHQP Guideline Recommendation Categories: Defining Directionality

- **Suggests**

- Quantitative Summary/ Meta-analysis

- Clinically meaningful but not statistically significant results
- Wider measure of dispersion (confidence interval is wide regardless of statistical significance and visual inspection reveals higher dispersion of values)
- High heterogeneity (visual inspection of study confidence intervals reveals little overlap, or I^2 value is high)

- Narrative Summary

- The much of the data points in one direction (measured by number of studies and the number of participants)
- Heterogeneity of results (more studies point in one direction or the other, however there is more dispersion of study results between benefit, no difference, and harm)