This toolkit is based on published guidelines and the experiences of the facilities that participated in the GNYHA/UHF C. difficile Collaborative. The strategies, recommendations, and tools included are intended to provide a basic framework that can be customized to meet the needs of individual institutions regardless of size, academic teaching status, staffing model, patient population, or available resources. Although each institution faces unique challenges, this toolkit is designed to provide individual institutions with a general guide to improve infection prevention practices. GNYHA makes no guarantees or warranties of any kind regarding the toolkit, including, without limitation, guarantees as to the accuracy of the information provided herein and warranties relating to the fitness of the information for any particular use or purpose. The information provided is not medical advice and should not be relied upon as such, nor should the information be used as a substitute for clinical or medical judgment. GNYHA does not assume liability for any damage or injury resulting from the use or misuse of any information provided herein.
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CHAPTER I: WHY FOCUS ON *C. DIFFICILE*?
This chapter discusses the burden of *C. difficile* infections and provides the rationale for hospitals to address *C. difficile*. An overview of the GNYHA/UHF and New York State Department of Health *C. difficile* Collaborative is also included.

CHAPTER II: GETTING STARTED
This chapter describes the preliminary steps health care institutions are recommended to undertake in order to launch a comprehensive *C. difficile* reduction program. Specific ways to get started are highlighted, including assessing current practices, forming a *C. difficile* prevention team, identifying and prioritizing reduction goals, and selecting a standardized testing method to detect *C. difficile* within your facility.

CHAPTER III: DATA COLLECTION STRATEGIES AND TOOLS
This chapter describes essential data collection strategies used to effectively monitor process and outcome measures for *C. difficile* reduction. Standardized data definitions and data collection tools such as the NHSN forms are included. Additionally, examples of how to use process measure tools such as the *C. difficile* Infection Prevention Bundle Compliance tracking tool and Environmental Cleaning tracking tool are provided.

CHAPTER IV: SUSTAINING PRACTICES
This chapter describes tactical methods to sustain *C. difficile* reduction efforts, including use of contact precaution signage and an environmental training video developed by GNYHA/UHF. Additionally, a summary of key challenges encountered by Collaborative members in implementing *C. difficile* reduction bundles and the strategies successfully used to overcome them is provided.

CHAPTER V: BIBLIOGRAPHY

CHAPTER VI: ADDITIONAL RESOURCES

CHAPTER VII: APPENDICES
This chapter provides sample resources developed by hospitals that participated in the Collaborative and tools created by GNYHA/UHF that were described throughout the document.
CHAPTER I: WHY FOCUS ON C. DIFFICILE?

A. BACKGROUND AND INTRODUCTION
According to the CDC, one of every 10–20 hospitalized patients in the United States develops a hospital-associated infection (HAI).\(^1\) A recent national prevalence study conducted by the Association for Professionals in Infection Control (APIC) found that 13 of every 1,000 inpatients were either infected or colonized with *Clostridium difficile* (*C. difficile*), which is 6.5–20 times higher than previous estimates.\(^2\)

*C. difficile* is related to antibiotic exposure and most commonly manifests as a gastrointestinal infection ranging from uncomplicated diarrhea to severe and life-threatening pseudomembranous colitis, intestinal perforation, or other life-threatening events.\(^3\) A new strain of *C. difficile* originally identified in Quebec, Canada, has emerged in recent years in the United States, Canada, and Europe that is more virulent and increasingly resistant to treatment, with evidence of increased rates of toxic megacolon (disease requiring colectomy), associated shock, and death.\(^4\) Some studies have shown that mortality associated with *C. difficile* has ranged from 7% to 48%, depending on comorbidities.\(^5, 6\) The growing problem of *C. difficile* emphasizes the need for better diagnostics, meticulous attention to infection prevention, and improved methods to manage both antibiotics and the disease. Implementing evidence-based interventions and increasing public awareness can decrease the incidence of *C. difficile*.

B. GNYHA/UHF C. DIFFICILE COLLABORATIVE OVERVIEW
After prior success in a collaborative to reduce central line–associated bloodstream infections (CLABSI) in the intensive care unit (ICU) setting, GNYHA and the United Hospital Fund (UHF), in collaboration with the New York State Department of Health (DOH), launched the *C. difficile* Collaborative in March 2008, with the primary goal to reduce hospital-associated *C. difficile* in hospitals within the greater New York region.

In late 2007, all acute care hospitals in the GNYHA membership were invited to participate in the *C. difficile* Collaborative. Hospitals interested in participating were required to demonstrate support from the facility’s executive leadership, via an application process, and establish an internal interdisciplinary team to drive and support the *C. difficile* infection reduction efforts. Forty-six hospitals participated in the Collaborative and, by adopting a *C. difficile* prevention “bundle” of evidence-based practices that will be further described in Chapter III, successfully standardized clinical infection prevention and environmental cleaning protocols. For an overview of the GNYHA/UHF collaborative model and details about the *C. difficile* Collaborative’s activities and participants, refer to Appendix A.

A. ASSESSING CURRENT PRACTICES

An initial assessment of current practices will aid in understanding the scope of the problem while identifying process gaps to target and improvement opportunities. Ideally, a thorough assessment of practices would include a review of the hospital’s current strategies for preventing and identifying infections, environmental cleaning practices, and tracking and surveillance activities. Appendix B provides an example of a tool that hospitals can use or adapt to assess their current practices to reduce *C. difficile*.

B. ESTABLISHING A *C. DIFFICILE* PREVENTION TEAM

Implementing and maintaining an effective *C. difficile* prevention program requires a dedicated team with ongoing communication and collaboration among multiple disciplines and across departments. The core team is responsible for developing, implementing, and managing the *C. difficile* prevention strategy. Team members are advised to meet consistently (e.g., biweekly early on) to achieve agreement, acknowledge program successes, and identify and manage challenges. While every organization is unique and available resources vary, disciplines essential to the success of *C. difficile* reduction efforts include:

- Infection Preventionist and/or Epidemiologist (typically the project lead)
- Senior Leadership (Administrative, Physician, and Nursing Leadership)
- Clinical Champions (Physicians and Nursing)
- House Staff Representative
- Environmental Services Supervisor
- Transport Services Supervisor
- Laboratory Support
- Data Collection Support (e.g., Quality Improvement personnel)

A combination of direct care providers and support staff are essential to move forward. Support staff supervisors are an important part of the team to ensure that the environmental practices are effectively implemented, and to achieve buy-in from frontline housekeepers and transporters. A crucial component to the success and sustainability of any process change is senior leadership involvement and support. Reducing *C. difficile* infections must be a priority for hospital administration and medical directors for this kind of initiative to succeed.

C. DEVELOPING *C. DIFFICILE* REDUCTION GOALS

Once the team members are determined and preliminary discussions about *C. difficile* reduction occur, it is important to set clear and realistic goals to focus the *C. difficile* infection reduction priorities. Table 1 provides examples of how to shape specific, measurable goals.

D. *C. DIFFICILE* TESTING METHODS

Faster and more accurate detection of *C. difficile* can translate into rapid treatment for infected patients. Table 2 gives an overview of the types of laboratory tests available for detecting *C. difficile*, with advantages and disadvantages of each test.

When the *C. difficile* Collaborative began, most hospitals used a dual-toxin test (i.e., testing for Toxins A and B) or a two-stage algorithm (i.e., antigen testing followed by toxin testing) to confirm *C. difficile* infection. A recent development in *C. difficile* testing is the introduction of molecular tests using a technique known as polymerase chain reaction (PCR), which amplify miniscule quantities of nucleic acids (e.g., DNA) by using an iterative process to generate detectable amounts of DNA.
Chapter II: Getting Started cont.

**TABLE 1: C. DIFFICILE INFECTION REDUCTION GOALS**

<table>
<thead>
<tr>
<th>GOAL</th>
<th>SUB-SET OF PROPOSED METHODS TO ACHIEVE GOAL</th>
</tr>
</thead>
</table>
| • Reduce *C. difficile* infection by XX% within six months in Hospital XX. | • Monitor *C. difficile* rates over time.  
• Hold educational in-services for support staff and frontline clinicians about *C. difficile* reduction strategies.  
• Implement the *C. difficile* prevention bundle. |
| • Achieve 100% compliance with all components of the *C. difficile* prevention bundle within six months in Hospital XX. | • Develop, pilot test, and implement a *C. difficile* prevention bundle monitoring tool (described more in Chapter III and Appendix C) to ensure compliance with practices. |
| • Achieve 95% compliance with adhering to an environmental protocol for daily and terminal cleaning. | • With support staff supervisors, develop a process for monitoring daily and terminal cleaning practices of rooms with *C. difficile*–infected patients.  
• Develop and convene in-services to educate support staff about hospital cleaning protocol and using a hypochlorite-based solution for cleaning. |

**TABLE 2: GENERAL CLASSIFICATION OF C. DIFFICILE TESTS**

<table>
<thead>
<tr>
<th>TEST</th>
<th>TIME TO RESULTS</th>
<th>ADVANTAGES</th>
<th>DISADVANTAGES</th>
</tr>
</thead>
</table>
| Stool Culture | 48–96 hours | Highest Sensitivity | • Highest false positive rate  
• Labor Intensive  
• Special equipment needed |
| Antigen Detection Assays | < 60 minutes | • Simple to perform  
• Rapid results | Must be verified with toxin test |
| Toxin Testing | < 24 hours | Can test for toxin A, toxin B, or both simultaneously | Less sensitive than stool culture test |
| PCR | <2 hours | High sensitivity (able to detect true positives) and negative predictive value | Costly |

A. C. DIFFICILE DATA DEFINITIONS

Prior to collecting C. difficile infection data, standardized data definitions to effectively monitor rates over time should be determined. Since many C. difficile infections are community-acquired, it is important for hospitals to identify both hospital-associated and non-hospital-associated infections (most likely acquired at other health care facilities, but there have been reports of community-acquired C. difficile). During the C. difficile Collaborative, surveillance definitions for point of infection were developed using a modified version of previously published definitions, shown in Table 3.

### TABLE 3. C. DIFFICILE SURVEILLANCE DEFINITIONS*

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Infections</td>
<td>All infections summed to produce a figure of the total C. difficile burden.</td>
</tr>
<tr>
<td>Hospital-Associated</td>
<td>Patients with onset of diarrhea† and diagnosis of C. difficile more than 48 hours after hospital admission or within 48 hours after hospital discharge.</td>
</tr>
<tr>
<td>Non-Hospital-Associated</td>
<td>Patients who had not been in the reporting hospital within the preceding four weeks and were admitted with a C. difficile diagnosis, or developed diarrhea within 48 hours of admission.</td>
</tr>
<tr>
<td>Recurrent</td>
<td>Patients with an episode of C. difficile that occurred within eight weeks of a previous episode of C. difficile that resolved with or without therapy.</td>
</tr>
</tbody>
</table>

†Unformed stool taking the shape of the container.

*Above data definitions were developed for use by the GNYHA/UHF C. difficile Collaborative to accurately reflect the point of infection. CDC uses different timeframes.

During the C. difficile Collaborative, three standardized tools to monitor infection rates and compliance with specific elements of the C. difficile infection prevention bundle and environmental protocols were developed:

**TOOLS:** Infection Prevention Bundle and Environmental Protocols
- C. difficile Infection Tracking Tool (APPENDIX C)
- Infection Prevention Bundle Tool (APPENDIX D)
- Environmental Cleaning Data Tool (APPENDIX E)
Once a hospital develops definitions for surveillance as described, it is then important to determine how to calculate the infections. *C. difficile* rates are typically computed at a rate per 10,000 patient days using this formula:

\[
\text{C. difficile rate per 10,000 patient days} = \frac{\text{# of C. difficile infections}}{\text{Total patient days}} \times 10,000
\]

### B. Reporting Through the Centers for Disease Control and Prevention’s (CDC) National Healthcare Safety Network (NHSN)

As of 2009, hospitals are able to use CDC’s NHSN as a platform for *C. difficile* infection surveillance. The following NHSN forms are being used by the New York State Department of Health for statewide public reporting of *C. difficile* infection data. For a full description of NHSN requirements please go to [http://www.cdc.gov/nhsn](http://www.cdc.gov/nhsn). For more information about the NHSN forms, please see the links below.

- NHSN’s Laboratory-Identified Multi-Drug Resistant Organism (MDRO) or *C. difficile* Associated Disease Event (CDAD) [LabID] Form ([http://www.cdc.gov/nhsn/forms/57.128_LabIDEvent_BLANK.pdf](http://www.cdc.gov/nhsn/forms/57.128_LabIDEvent_BLANK.pdf))

Using NHSN as a platform is an appealing option for the following reasons:

- **Standardized Data Definitions:** CDC has standardized data definitions and inclusion/exclusion criteria for data submission, allowing comparison of a hospital’s data to aggregated data from hospitals nationally and to other hospitals within a health system, if applicable. Health care facilities from all 50 states are currently using NHSN.
- **Creation of Groups:** NHSN allows users to create groups to access data from multiple hospitals that give permission to a single entity, a useful feature for a health system’s central administration to track infections across health system hospitals.

- **State and Federal Reporting Using NHSN:** Many states and the Centers for Medicare & Medicaid Services (CMS) are using or will use NHSN for HAI reporting, including *C. difficile*. Twenty-one states, including New York, require or will require hospitals to use NHSN for mandatory HAI reporting. The number of facilities using NHSN has doubled since 2007, and these mandates are a contributing factor. In the fiscal year 2011 Inpatient Prospective Payment System (IPPS) final rule, NHSN was adopted for use in reporting central line-associated bloodstream infections and surgical-site infections for CMS’ Hospital Inpatient Quality Reporting Program, with data reporting beginning in January 2011.
- **Free:** There is no fee for hospitals to use NHSN.

### C. *C. difficile* Infection Tracking Tool

This tool also allows hospitals to compile patient-level *C. difficile* data to determine the percentage of patients affected by *C. difficile*. Thirty patient-level data elements are included in this tool, of which 13 are required and four are calculated automatically using dates of service or diagnosis. Protected Health Information is not reported, and the tool includes elements such as patient names, medical record numbers, and six extra customizable fields to input additional dates or alpha-numeric data (e.g., unit) to allow hospitals to

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use the tool for *C. difficile* surveillance. The *C. difficile* infection tracking tool is available in Appendix C.

**D. INFECTION PREVENTION BUNDLE COMPLIANCE TRACKING TOOL**

A series of infection prevention practices designed to be implemented together are available in Appendix D. Together, the processes in the bundle reduce infection. An example observation form, found in Appendix D, enables data gathering for monitoring of adherence to infection prevention practices for an individual patient. As demonstrated in the Collaborative, hospitals can consider conducting a recommended target of 20 observations a month (five per week) of suspected or confirmed *C. difficile* patients. In addition to the observation form, a summary form can be found in Appendix D, which can be used to aggregate multiple observations for specific periods of time and will allow hospitals to monitor trends over time, as well as to implement more focused interventions.

Table 4 provides the components of the *C. difficile* prevention bundle with strategies to implement the specific practice.

**E. ENVIRONMENTAL CLEANING TRACKING TOOL**

The environmental cleaning tracking tool is a checklist for environmental cleaning staff to ensure consistency of routine and terminal room cleanings. An example observation form can be found in Appendix E in English.¹¹ Forty-eight cleaning elements (though some elements can be excluded due to an individual hospital’s room configuration) are specified for cleaning and sign-off by a supervisor. As demonstrated by the Collaborative, hospitals can consider conducting a recommended target observation of eight daily cleanings per month (about two daily cleanings per week) and one terminal cleaning per month to assess adherence. A summary form is also provided in Appendix E so that hospitals can aggregate multiple observations for a specific period of time, monitor adherence, and identify and implement more targeted interventions.

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¹¹ Spanish was determined to be the most commonly spoken language among participating hospitals’ environmental staff who did not speak English as their primary language.
### TABLE 4. COMPONENTS OF THE C. DIFFICILE INFECTION PREVENTION BUNDLE

<table>
<thead>
<tr>
<th>C. DIFFICILE BUNDLE COMPONENT</th>
<th>STRATEGIES TO HELP IMPLEMENT PRACTICE</th>
</tr>
</thead>
</table>
| Institute immediate contact precautions for patients with diarrhea | Nurse-initiated actions, including:  
• Assessing patient  
• Informing physician that patient has diarrhea  
• Putting patient on contact precautions  
• Notifying Admitting and Infection Prevention Departments that patient is on contact precautions  
Physician-initiated actions, including:  
• Assessing patient  
• Evaluating for possible C. difficile infection  
• Ordering laboratory tests  
• Contact precautions |
| Perform appropriate hand hygiene | • Use soap and water to prevent spread of C. difficile spores  
• Adhere to the hospital’s hand-hygiene policy  
• Observe hand-hygiene practices |
| Have personal protective equipment (PPE) readily available, and use it | • Have PPE readily available on the unit  
• Secure PPE for appropriate clinical and support staff |
| If used, have dedicated rectal thermometers | • Enforce hospital-wide policy not to share rectal thermometers  
• Consider other options for thermometers (e.g., temporal) |
| Patient Placement:  
• Private room, cohorting C. difficile, or shared rooms  
• Bathroom: dedicated versus shared, or use of commode | • First and preferred option: Place patient in private room  
• Second option: If no private room is available, identify if patient can be cohorting with another patient with C. difficile or another multi-drug resistant organism (MDRO)  
• As a last option, if no other option is available and an infected and an uninfected patient share a room, determine a bathroom-sharing strategy** |

**While this is not an ideal option, given the challenges of physical plants in New York City, the C. difficile steering committee determined that this practice should be considered as a last resort.**
This chapter offers several resources developed through the GNYHA/UHF C. difficile Collaborative, along with an overview of key challenges hospitals encountered during the initiative and how they addressed those issues. This section’s goal is to assist hospitals with sustaining their C. difficile reduction efforts.

A. CONTACT PRECAUTION SIGNAGE
One element in the C. difficile Collaborative is to initiate immediate contact precautions for patients with C. difficile, part of which involves placing signs on the door of the infected patient’s room to notify support staff, clinicians, patients, and visitors of the need to take special precautions before entering. While many hospitals have their own unique signage to place on the doors of infected patients’ rooms, several in the C. difficile Collaborative requested that GNYHA and UHF design these posters to ensure that hospitals have a clear and consistent resource. Three signs were developed and provided to collaborative participants (see Appendix F for signs), and the following communications were included on each poster:
- A large “STOP” sign alerting one to read the sign before entering the patient’s room
- All visitors should check in with the nurses’ station before entering the room
- Wash hands with soap and water
- Wear gloves and gown at all times
- Clean all surfaces with bleach products

B. ENVIRONMENTAL SERVICES TRAINING VIDEO AND PRESENTATION
Educating frontline housekeepers about effective methods to clean patient rooms exposed to C. difficile is critical to preventing its spread, and the role of environmental services staff in infection prevention is extremely important. GNYHA and UHF developed a training video, which is included in Appendix G, to provide environmental services supervisors and frontline support staff with an educational module for daily and terminal cleaning of patient rooms to prevent C. difficile. The video provides information about the unique nature of the C. difficile spores and measures to effectively prevent their spread, including the importance of using a bleach product for cleaning. A supporting PowerPoint presentation was developed and can be customized with the hospital’s logo and specific policies, procedures, and practices to reinforce the critical role of environmental services in infection prevention. Hospitals can use these resources as ongoing education components for environmental services employees.

TOOL: Environmental Services Training Video and Presentation (APPENDIX G)

C. STRATEGIES TO OVERCOME KEY CHALLENGES
Hospitals frequently experience challenges when implementing interventions to reduce HAIs, including C. difficile. Table 5 outlines a snapshot of some common key challenges that were noted during the C. difficile Collaborative. Though individual hospitals resolved their challenges in different ways, some successful sample strategies are provided in Table 5.

In addition to Table 5, Appendix J includes case studies from four hospitals that participated in the C. difficile Collaborative, which may further assist hospitals in their C. difficile reduction efforts.

TOOLS: Strategies to Overcome Key Challenges
- Hand Hygiene Monitoring Tool (APPENDIX H)
- Hospital Policy for use of Bathroom, Commode, and Bedpans in Patients with C. difficile (APPENDIX I)
- Best Practices for Overall Improvement (APPENDIX J)
### TABLE 5. KEY CHALLENGES AND STRATEGIES TO OVERCOME THEM

<table>
<thead>
<tr>
<th>CHALLENGE</th>
<th>PROPOSED STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staffing and Team Dynamic</strong></td>
<td>Train support services staff as “Infection Prevention Coaches,” empowering them to reinforce the importance of <em>C. difficile</em> prevention efforts and to inspire peers that infection prevention is “everyone’s job” (e.g., collaborate with 1199 SEIU United Health care Workers East). Example: Hospital transporter reinforces appropriate wheelchair cleaning between patients’ use by asking co-workers to imagine how they would feel if a loved one was admitted to the hospital and forced to use unclean equipment.</td>
</tr>
<tr>
<td><strong>Implementing Prevention Bundle Components</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Hand Hygiene:</strong> Hand-washing with soap and water to kill <em>C. difficile</em> spores can be problematic at some hospitals due to proximity of sinks to patient rooms, resulting in clinicians’ inability to use soap and water after every patient encounter.</td>
<td>1. Have infection preventionists educate clinicians on appropriate hand-hygiene practices to prevent spread of infection. 2. Reinforce strict adherence to hospital hand-hygiene policy. 3. Directly observe hand-hygiene practices per <em>C. difficile</em> prevention bundle. 4. A data collection tool to specifically evaluate hand hygiene is included in Appendix H, based on CDC and World Health Organization guidelines. This tool captures hand hygiene practices before and after patient contact and assesses compliance with recommended hand hygiene techniques. TIP: Use this tool to track staff/clinicians that consistently do not comply with proper hand hygiene, reinforce correct practice, and focus efforts to improve practices across the hospital.</td>
</tr>
<tr>
<td><strong>Contact Precautions:</strong> Communicating to patient units to initiate immediate contact precautions once a patient has tested positive for <em>C. difficile</em> can be difficult.</td>
<td>Institute a procedure in which infection prevention develops a daily list of patients with MDROs, including <em>C. difficile</em>, and sends it to every department, including leadership. Challenge: Labor intensive to set up, but provides benefits to patient care units by knowing infected patients to institute contact precautions effectively.</td>
</tr>
<tr>
<td><strong>Patient Placement:</strong> In most cases, hospitals are able to follow the best practice of placing patients with <em>C. difficile</em> in private rooms or cohorting with other <em>C. difficile</em> patients. However, when there are multiple bedded rooms, it may be difficult to adhere to these best-practice strategies.</td>
<td>Despite this challenge, one large hospital instituted a policy to never cohort infected patients with uninfected patients. Example: Appendix I provides a policy on patient placement and strategies for using the bathroom, commode, and bedpans in patients with suspected and confirmed <em>C. difficile</em>.</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td>1. Hospital teams define a process for collecting necessary data to monitor progress. Designate specific staff and/or clinicians to “own” the data collection activity. 2. Engage leadership and team members by sharing infection data.</td>
</tr>
</tbody>
</table>


CHAPTER VI: ADDITIONAL RESOURCES

HAND-HYGIENE RESOURCES
Centers for Disease Control and Prevention (CDC)
Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Health care Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force
http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf

CDC Infection Prevention Resources
www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html

CDC Environmental Infection Control in Health care Facilities
http://www.cdc.gov/hicpac/pubs.html

Joint Commission Hand Hygiene Guidelines

World Health Organization (WHO) Guidelines on Hand Hygiene in Health Care

SOCIETY FOR HEALTH CARE EPIDEMIOLOGY OF AMERICA (SHEA)
A Compendium of Strategies to Prevent Health care-Associated Infections in Acute Care Hospitals
http://www.sheaonline.org/GuidelinesResources/CompendiumofStrategiesetoPreventHAIs.aspx

Strategies to Prevent Clostridium difficile Infections in Acute Care Hospitals

NATIONAL HEALTH CARE SAFETY NETWORK (NHSN) RESOURCES
CDC/NHSN surveillance definition of health care–associated infection and criteria for specific types of infections in the acute care setting

NHSN requirements
http://www.cdc.gov/nhsn

ADDITIONAL ARTICLES:
GAO Report: Health-Care-Associated Infections in Hospitals—Leadership Needed from HHS to Prioritize Prevention Practices and Improve Data on These Infections

McDonald Article: Recommendations for Surveillance of Clostridium difficile–Associated Disease
### Appendix A
- Description of GNYHA/UHF *C. difficile* Collaborative

### Appendix B
- Assessment of Current Practices Tool

### Appendix C
- *C. difficile* Infection Tracking Tool

### Appendix D
- Infection Prevention Bundle Tool

### Appendix E
- Environmental Cleaning Data Tool

### Appendix F
- Contact Precaution Signs

### Appendix G
- Environmental Services Training Video and Presentation

### Appendix H
- Hand Hygiene Monitoring Tool

### Appendix I
- Hospital Policy for Use of Bathroom, Commode, and Bedpans in Patients with *C. difficile*

### Appendix J
- Best Practices for Overall Improvement

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Electronic Versions of Appendices are available at [http://www.gnyha.org/cdiff](http://www.gnyha.org/cdiff).
INTRODUCTION
The Greater New York Hospital Association (GNYHA) and United Hospital Fund (UHF), in collaboration with the New York State Department of Health, began the *Clostridium difficile* (C. difficile) Collaborative in 2008 with the primary goal to reduce hospital-associated C. difficile infections at hospitals within the greater New York region. C. difficile is a bacterium that infects the gastrointestinal tract and can have serious consequences, including increased morbidity and mortality, especially in the elderly.\(^1\) C. difficile continues to be a growing problem for health care institutions because its spores can survive for extended periods of time in the environment and specific antibiotics can increase the risk of the infection. This emphasizes the need for meticulous attention to infection control and prevention, improved methods to manage the infection and clean the environment, and restricted antibiotic use.

C. DIFFICILE COLLABORATIVE
The C. difficile Collaborative was modeled after existing GNYHA/UHF initiatives that have utilized the collaborative model to improve care processes, including a collaborative in which 40 hospitals participated to reduce central line–associated bloodstream infections in the intensive care unit setting. The collaborative model employs a systematic approach to improving health care quality in which health care institutions form interdisciplinary teams, test and measure practice innovations, and share their experiences to accelerate learning and widespread adoption of best practices.

The C. difficile Collaborative was guided by a Steering Committee of experts in infection prevention and epidemiologists who were instrumental in developing the data collection strategy and the framework for the initiative. Forty-six hospitals throughout the greater New York region joined the C. difficile Collaborative. Collaborative participants committed to submitting monthly C. difficile infection data, as well as specific process measures to ensure that evidence-based C. difficile infection prevention and environmental cleaning practices were adhered to. In-person meetings and monthly conference calls guided the Collaborative’s activities and allowed participating hospitals to share their successes and barriers to implementation.

C. DIFFICILE COLLABORATIVE GOAL:
To reduce hospital-associated C. difficile infection by implementing an evidence-based “bundle” of infection prevention measures and environmental cleaning practices.\(^2\)

C. difficile Collaborative–participating hospitals implemented the infection prevention bundle and environmental cleaning practices. They also utilized checklists to monitor compliance with the bundle, as well as with daily and terminal cleaning procedures for rooms with C. difficile–infected patients.

C. DIFFICILE COLLABORATIVE SUCCESS
- Hospitals participating in the C. difficile Collaborative achieved a statistically significant reduction in the rate of hospital-associated C. difficile infections during the 16-month intervention period.
- On average, there was a 20% reduction in hospital-associated C. difficile infection among 80% of participating hospitals.\(^3\)

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2. The “bundle” that was developed included: adherence to hand hygiene protocols; immediate contact precautions when C. difficile infection is suspected; use of personal protective equipment; no sharing of rectal thermometers; appropriate patient placement of infected patients; and implementation of daily and terminal environmental cleaning practices using a hypochlorite-based disinfectant.
3. Thirty-five hospitals were included in the final analysis of data.
The *C. difficile* Collaborative ran from 2008 until 2010, and GNYHA and UHF have focused ongoing efforts to ensure that the best practices from the *C. difficile* Collaborative are sustained, including disseminating resources to assist other GNYHA member hospitals with implementing similar practices. A “toolkit” is being designed with resources to help hospitals implement the *C. difficile* infection prevention bundle and environmental cleaning practices, including a training video that will educate environmental services and infection prevention staff on necessary steps for effective environmental cleaning to prevent the spread of *C. difficile*. Resources can be found online at [www.gnyha.org/cdiff](http://www.gnyha.org/cdiff).

### GNYHA MEMBER HOSPITALS THAT JOINED THE C. DIFFICILE COLLABORATIVE

- Bronx-Lebanon Hospital Center
- Catholic Health Services of Long Island
  - St. Catherine of Siena Medical Center
  - St. Charles Hospital
  - St. Francis Hospital
- Continuum Health Partners, Inc.
  - Beth Israel Medical Center
  - Kings Highway Division
  - Petrie Division
  - St. Luke’s-Roosevelt Hospital Center
  - Roosevelt Division
  - St. Luke’s Division
  - Long Island College Hospital¹
- Hudson Valley Hospital Center
- Lenox Hill Hospital¹
- Long Beach Medical Center
- Lutheran Medical Center
- Montefiore Medical Center
  - Moses Division
  - Weiler Division
  - North Division
- The Mount Sinai Hospital
- The Mount Vernon Hospital
- New York Downtown Hospital
- New York Hospital Queens
- New York Methodist Hospital
- Northern Dutchess Hospital
- North Shore-Long Island Jewish Health System
  - Forest Hills Hospital
  - Franklin Hospital Medical Center
  - Glen Cove Hospital
  - Huntington Hospital
  - Long Island Jewish Medical Center
  - North Shore University Hospital
  - Plainview Hospital
  - Southside Hospital
  - Staten Island University Hospital
  - Syosset Hospital
- NYU Langone Medical Center
- Orange Regional Medical Center²
  - Horton Campus
  - Arden Hill Campus
- Peninsula Hospital Center
- Richmond University Medical Center
- St. Joseph’s Hospital
- St. Vincent’s Hospital-Manhattan³
- Sound Shore Medical Center of Westchester
- Stamford Hospital
- Trinitas Regional Medical Center
- University of Medicine and Dentistry of New Jersey
- Westchester Medical Center
- Winthrop-University Hospital
- Wyckoff Heights Medical Center

For more information about the *C. difficile* Collaborative, contact Zeynep Sumer, (zsumer@gnyha.org), Kelly Donohue (donohue@gnyha.org) or Gina Shin (gshin@gnyha.org).

1. Since the Collaborative ended, ownership of some participating hospitals changed. Lenox Hill Hospital became part of North Shore-Long Island Jewish Health System; Long Island College Hospital became part of SUNY Downstate Medical Center.
2. Orange Regional Medical Center closed its two campuses in 2011 and opened a single new hospital in Middletown.
## ASSESSMENT OF CURRENT PRACTICE

**INSTRUCTIONS:** Please indicate if your hospital has implemented practices that could potentially reduce *C. difficile*.

<table>
<thead>
<tr>
<th>Practice</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly surveillance of hospital-wide <em>C. difficile</em> rates</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Testing for Toxins A and B</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Immediate notification to patient care unit once microbiology informs about positive lab test for <em>C. difficile</em></td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Use of contact precautions at least during duration of illness, including:</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Patient placement after finding positive result (hierarchy of: private room, cohorting, use of commodes)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Adherence to hand-washing with soap and water or use of alcohol-based hand sanitizers if gloves are worn</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>No shared use of electronic rectal thermometers</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Dedicated thermometers for presumed, suspected, and confirmed cases of <em>C. difficile</em></td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Environmental cleaning, disinfecting, and dedicated equipment</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Infected patient's room cleaned with hypochlorite-based disinfectant each occupied day</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Terminal cleaning with hypochlorite-based disinfectant upon patient discharge</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Dedicated use of non-critical patient care equipment (e.g., stethoscope, blood pressure cuff, etc.)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• Use of Environmental Protection Agency–approved disinfectant to clean common equipment (wheelchair, stretcher, etc.)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Institution-specific policy or protocol specifying treatment for <em>C. difficile</em></td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Measurement/monitoring of any practices mentioned above (please describe below)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other strategies to reduce <em>C. difficile</em> used at your hospital (please describe below)</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**COMMENTS:**

________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________
### Example Clostridium Difficile Collection Data Form

#### Hospital Name

<table>
<thead>
<tr>
<th>Facility Associated</th>
<th>Possible Facility Associated</th>
<th>Non-Facility Associated</th>
<th>Recurrent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Total C. difficile Cases Indicator

<table>
<thead>
<tr>
<th>Current Reporting Period</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Patient-Level Data

<table>
<thead>
<tr>
<th>Case #</th>
<th>Medical Record Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Reporting Period</th>
<th>Age</th>
<th>Gender</th>
<th>Admission Date</th>
<th>Admission from Another Health care Facility</th>
<th>Name of Transferring Facility</th>
<th>Symptom Onset Date</th>
<th>Used Contact Precautions</th>
<th>Date C. difficile Test was Obtained</th>
<th>Discharged Patient</th>
<th>C. difficile Case Status</th>
<th>Diagnosis made on Specimen #</th>
<th>Colectomy</th>
<th>Patient Status at Discharge</th>
<th>Open Date Field</th>
<th>Open Alpha-Numeric Field</th>
<th>Time Till Symptom Onset (Days)</th>
<th>Time Till Contact Precautions Initiated (Days)</th>
<th>Time Till Positive C. difficile Test (Days)</th>
<th>Length of Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tbody>
</table>
APPENDIX D: INFECTION PREVENTION BUNDLE TOOL

EXAMPLE INFECTION PREVENTION CHECKLIST FOR CLOSTRIDIUM DIFFICILE
SUMMARY FORM

INSTRUCTIONS
<<Modify instructions as needed to comply with data collection protocol or internal policies.>>

1. To complete the summary form, enter the appropriate data in the cells highlighted in yellow (to move the cursor, use the TAB key on the keyboard):
   a. Enter the number of the patients you observed during the month.
   b. Under the column labeled Yes, enter the number of times you answered “yes” to the question shown under the Component column.
   c. Under the column labeled No, enter the number of times you answered “no” to the question shown under the Component column.

2. When there are missing data or when the responses don’t add up to the number of observed patients, the Bundle-Score column will alert you.

<<Users need to create dropdown lists to facilitate selection of units/hospitals and reporting periods.>>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>NOT APPLICABLE</th>
<th>YES</th>
<th>NO</th>
<th>BUNDLE-SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient placed on CONTACT PRECAUTIONS per hospital’s policy? ³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIGN PLACED at infected patient’s room per hospital’s policy?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPE readily available?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated rectal thermometer? ³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAND HYGIENE observed per hospital’s policy? ³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PATIENT PLACEMENT

| Patient placed in PRIVATE ROOM?                                           |                |     |    |              |
| For Patients in Shared Room:                                              |                |     |    |              |
| Patient COHORTED with other patients suspected or known to have C. difficile? |                |     |    |              |
| For patients sharing room with patients without C. difficile:             |                |     |    |              |
| Is bathroom shared between patients?                                      |                |     |    |              |

Overall Patient Placement Score

Overall Bundle-Score

Notes (modify as needed to meet data collection protocol):
1. Contact precautions should be maintained by all disciplines. A physician order is NOT needed to place patients with symptoms of C. difficile on contact precautions.
2. Under the column labeled Not Applicable, enter the number of patients for whom rectal thermometers were not used.
3. Review all the hand-hygiene observations (e.g., if there are 2 observations for 1 patient, count the 2 observations). Report the count of “Yes” and “No” responses.
Other Notes:
* Cleaning and disinfecting equipment and environment is NOT included on this form. This will be captured on a separate environmental checklist.
EXAMPLE INFECTION PREVENTION CHECKLIST FOR CLOSTRIDIUM DIFFICILE

OBSERVATION FORM

INSTRUCTIONS
<<Modify instructions as needed to comply with data collection protocol or internal policies.>>
Observe 20 patients with suspected or confirmed *Clostridium difficile* (*C. difficile*) for the reporting month. Try to observe approximately five patients per week, making sure that you are not observing the same patient more than once. If you had fewer patients with *C. difficile*, observe all of them.

<table>
<thead>
<tr>
<th>Date</th>
<th>Patient Name</th>
<th>Medical Record Number</th>
<th>Unit</th>
<th>Room Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>NOT APPLICABLE</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient placed on <strong>CONTACT PRECAUTIONS</strong> per hospital’s policy?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SIGN PLACED</strong> at infected patient’s room per hospital’s policy?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPE readily available?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated Rectal thermometer?²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HAND HYGIENE</strong> observed per hospital’s policy?³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PATIENT PLACEMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient placed in <strong>PRIVATE ROOM</strong>?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For Patients in Shared Room:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient <strong>COHORTED</strong> with other patients suspected or known to have <em>C. difficile</em>?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>For patients sharing room with patients without <em>C. difficile</em>:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is bathroom shared between patients?</td>
<td>YES</td>
<td>NO</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall Patient Placement Score</th>
<th>Overall Bundle-Score</th>
</tr>
</thead>
</table>

Notes (modify as needed to meet data collection protocol):
1. Contact precautions should be maintained by all disciplines. A physician order is NOT needed to place patients with symptoms of *C. difficile* on contact precautions.
2. Under the column labeled Not Applicable, enter the number of patients for whom rectal thermometers were not used.
3. Review all the hand-hygiene observations (e.g., if there are 2 observations for 1 patient, count the 2 observations). Report the count of “Yes” and “No” responses.

Other Notes:
* Cleaning and disinfecting equipment and environment is NOT included on this form. This will be captured on a separate environmental checklist.
APPENDIX E: ENVIRONMENTAL CLEANING DATA TOOL

SAMPLE ENVIRONMENTAL CHECKLIST - SUMMARY FORM
FOR DAILY AND TERMINAL CLEANING ROOM OBSERVATIONS
<<Modify instructions as needed to comply with data collection protocol or internal policies.>>
Observe eight daily cleanings per month (try to observe about two per week) and one terminal cleaning per month. Report your results in the highlighted cells.

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Component</th>
<th># Times Task Performed</th>
<th># Times Task NOT Performed</th>
<th># Times Not Applicable</th>
<th>Enviro-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>At start, perform hand hygiene</td>
<td>Door knobs</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Door surface</td>
<td></td>
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<tr>
<td></td>
<td>Light switches</td>
<td></td>
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<td></td>
<td>Window sills</td>
<td></td>
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<tr>
<td></td>
<td>Spot clean walls with disinfectant cloth</td>
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<tr>
<td></td>
<td>Medical equipment (e.g., IV controls)</td>
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<td></td>
<td>Bed rails</td>
<td></td>
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<tr>
<td></td>
<td>Call button</td>
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<td></td>
<td>Phone</td>
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<tr>
<td></td>
<td>Over bed table &amp; drawer</td>
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<tr>
<td></td>
<td>Countertop</td>
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<tr>
<td></td>
<td>Furniture</td>
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<tr>
<td></td>
<td>Arms of patient chair</td>
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<tr>
<td></td>
<td>Seat of patient chair</td>
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<td></td>
<td>All other misc. horizontal surfaces</td>
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<tr>
<td></td>
<td>Overhead light (if the bed is empty)</td>
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<tr>
<td></td>
<td>TV &amp; stand</td>
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<tr>
<td>High-touch surfaces: Disinfect w/hypochlorite-based disinfectant</td>
<td>Lights</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathroom: Disinfect w/hypochlorite-based disinfectant</td>
<td>Bathroom door knob</td>
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<tr>
<td></td>
<td>Mirror</td>
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<tr>
<td></td>
<td>Tub/shower</td>
<td></td>
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<td>Faucets (at sink)</td>
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<td>Bathroom handrails</td>
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<td>Toilet lever/flush</td>
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<td>Toilet horizontal surface/seat</td>
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<td>Clean:</td>
<td>Dust mop tile</td>
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<td></td>
<td>Wet mop tile</td>
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<td>Clean Floor:</td>
<td>Bed frame</td>
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<td></td>
<td>Mattress covers</td>
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<td>Blood pressure cuffs, as per hospital policy</td>
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<tr>
<td>For TERMINAL CLEANING, damp dust:</td>
<td>Remove unused linen and other such items</td>
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<tr>
<td>EXIT ROOM AFTER CLEANING IS COMPLETE:</td>
<td>Remove trash, mops, soiled curtains, discard wipes/cloths, etc.</td>
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<td></td>
<td>Dispose of gloves, gown, wash hands</td>
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<tr>
<td>RE-STOCK ROOM with SUPPLIES and EQUIPMENT as needed:</td>
<td>Hand sanitizer</td>
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<tr>
<td>After Daily Cleaning (Replace as needed) RE-ENTER with PPE - GOWN &amp; GLOVES</td>
<td>Paper towels</td>
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<td></td>
<td>Replace curtains as needed</td>
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<td></td>
<td>Replace trash liner</td>
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<tr>
<td>After TERMINAL CLEANING, gowns/gloves not needed; It's a clean room</td>
<td>Remake bed with clean linen</td>
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<td></td>
<td>Replace as needed: Pillows, mattresses, pillow covers, mattress covers</td>
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<td></td>
<td>Replace curtains as needed</td>
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<tr>
<td>Other:</td>
<td>Change mop heads after each room</td>
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<td></td>
<td>Remove PPE before walking in hallway</td>
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<td></td>
<td>Perform hand hygiene</td>
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</tbody>
</table>

Your hospital Reporting period Enter number of routine cleanings Enter number of terminal cleanings TOTAL CLEANINGS

| Your hospital | | | | | |
| Reporting period | | | | | |
| Enter number of routine cleanings | | | | | |
| Enter number of terminal cleanings | | | | | |

Overall Enviro-Score
## SAMPLE ENVIRONMENTAL CHECKLIST - OBSERVATION FORM

**FOR DAILY AND TERMINAL CLEANING ROOM OBSERVATIONS**

<<Modify instructions as needed to comply with data collection protocol or internal policies.>>

Observe two daily cleanings per week and one terminal cleaning per month. Report your results in the highlighted cells.

### Instructions

<table>
<thead>
<tr>
<th>Instruction</th>
<th>Component</th>
<th>Yes</th>
<th>No</th>
<th>Not Applicable</th>
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</thead>
<tbody>
<tr>
<td>At start, perform hand hygiene</td>
<td></td>
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<tr>
<td>Put on PPE</td>
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<tr>
<td>Needed supplies/equipment</td>
<td>Door knobs</td>
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<td></td>
<td>Door surface</td>
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<td></td>
<td>Light switches</td>
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<td></td>
<td>Window sills</td>
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<td></td>
<td>Spot clean walls with disinfectant cloth</td>
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<td></td>
<td>Medical equipment (e.g., IV controls)</td>
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<td></td>
<td>Bed rails</td>
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<td></td>
<td>Call button</td>
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<td></td>
<td>Phone</td>
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<td></td>
<td>Over bed table &amp; drawer</td>
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<td></td>
<td>Countertop</td>
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<td></td>
<td>Furniture</td>
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<td></td>
<td>Arms of patient chair</td>
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<td></td>
<td>Seat of patient chair</td>
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<tr>
<td></td>
<td>All other misc. horizontal surfaces</td>
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<tr>
<td>High-touch surfaces:</td>
<td>Overhead light (if the bed is empty)</td>
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<tr>
<td>Disinfect w/hypochlorite-based disinfectant</td>
<td>TV &amp; stand</td>
<td></td>
<td></td>
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<tr>
<td>Clean:</td>
<td>Lights</td>
<td></td>
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<td></td>
<td>Bathroom door knob</td>
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<td></td>
<td>Mirror</td>
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<td></td>
<td>Tub/shower</td>
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<td></td>
<td>Faucets (at sink)</td>
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<td></td>
<td>Bathroom handrails</td>
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<td>Sink</td>
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<td>Toilet lever/flush</td>
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<td></td>
<td>Toilet horizontal surface/seat</td>
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<tr>
<td>Clean Floor:</td>
<td>Dust mop tile</td>
<td></td>
<td></td>
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<tr>
<td>For TERMINAL CLEANING, damp dust:</td>
<td>Wet mop tile</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>Bed frame</td>
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<td></td>
<td>Mattress covers</td>
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<td></td>
<td>Pillows</td>
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<td></td>
<td>Blood pressure cuffs, as per hospital policy</td>
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<td></td>
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<tr>
<td></td>
<td>Remove unused linen and other such items</td>
<td></td>
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<tr>
<td>EXIT ROOM AFTER CLEANING IS COMPLETE:</td>
<td>Remove trash, mops, soiled curtains, discard</td>
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<td></td>
<td>wipes/cloths, etc.</td>
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<td></td>
<td>Dispose of gloves, gown, wash hands</td>
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<tr>
<td>RE-STOCK ROOM with SUPPLIES and EQUIPMENT as needed:</td>
<td>Replace trash liner</td>
<td></td>
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<tr>
<td>After Daily Cleaning (Replace as needed)</td>
<td>Hand sanitizer</td>
<td></td>
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<tr>
<td>RE-ENTER with PPE - GOWN &amp; GLOVES</td>
<td>Paper towels</td>
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<td></td>
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<tr>
<td></td>
<td>Replace trash liner</td>
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<tr>
<td>After TERMINAL CLEANING, gowns/gloves</td>
<td>Remake bed with clean linen</td>
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<td>not needed; It’s a clean room</td>
<td>Replace as needed: Pillows, mattresses, pillow covers, mattress covers</td>
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<td></td>
<td>Replace curtains as needed</td>
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<td>Other:</td>
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<td></td>
<td>Remove PPE before walking in hallway</td>
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<td></td>
<td>Perform hand hygiene</td>
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This form is also available in Spanish at www.gnyha.org/cdiff.
APPENDIX F:
CONTACT PRECAUTION SIGNS
APPENDIX G: ENVIRONMENTAL SERVICES TRAINING VIDEO AND PRESENTATION

ENVIRONMENTAL SERVICES TRAINING VIDEO

Available at http://www.gnyha.org/cdiff/toolkit.

PROTECTING PATIENTS AND STAFF AGAINST C. DIFFICILE

Environmental Services’ Role in Infection Prevention

Presentation Note: The purpose of this presentation is to provide institutional leadership with an educational training tool for environmental services staff. The goal is to explain why and how rooms occupied by patients with C. difficile must be specially cleaned. This education packet is intended as a foundation which each institution can personalize and build upon according to their own policies and procedures.

Presenter (if you are using the Mr. Bleach video): Today’s presentation will inform you of how to protect yourself and our patients against the infection Clostridium difficile, pronounced as kla-STRID-ee-um dif-iuh-SEEL, and referred to as C. difficile in this presentation. We will begin today’s presentation with a brief video introduction (begin video; approximately 4.5 minutes).

Presenter (if you are not using the Mr. Bleach video): Today’s presentation will inform you of how to protect yourself and our patients against C. difficile.
PRESENTATION OBJECTIVES

- Review what *C. difficile* is and why it is a challenging infection to fight;
- Describe the GNYHA/UHF *C. difficile* Collaborative;
- Review the essential role of Environmental Services in infection prevention; and
- Describe how to keep yourself and patients safe and prevent the spread of *C. difficile*.

**Presentation Note:** The education tool should provide basic information on the unique nature of the *C. difficile* bacteria and the resultant special measures required to effectively prevent its spread. In addition, the presentation should emphasize and reinforce the critical role of environmental services in infection control and promoting personal as well as patient safety.

**Presenter:**
Keeping the facility clean is always challenging—it's even tougher when cleaning a *C. difficile* room since it is extremely difficult to clean *C. difficile* spores. Very specific cleaning protocols must be followed. Today's presentation will review why *C. difficile* is so hard to fight and why your job really does affect our patients' health and keeps patients safe.

WHAT IS CLOSTRIDIUM DIFFICILE?

- *C. difficile* is shorthand for *Clostridium difficile* (klo-STRID-ee-um dif-uh-SEEL) bacteria which can cause diarrhea and other similar symptoms.
- The bacteria are found in feces.

**Presenter:** Review slide content then say: *C. difficile* can make patients who are already ill even sicker.
WHAT MAKES C. DIFFICILE DIFFERENT?

- Unlike most bacteria, C. difficile changes into a spore form that cannot be seen.
- C. difficile spores can survive on surfaces for up to 5 months.
- Most importantly, spores cannot be killed by ordinary disinfectants.

Presentation Note: On this slide, it may be useful to refer by name to the disinfectants typically used in non-C. difficile rooms in your facility, in order to more explicitly distinguish them from the solutions required for the cleaning of C. difficile rooms.

Presenter: Spores are like a hard shell surrounding bacteria—like an M & M candy shell around the chocolate center. What makes C. difficile so challenging to fight is the fact that the spores are so tough they are not killed by traditional disinfectants. Chlorine bleach* is the only agent that effectively kills C. difficile spores on environmental surfaces.

*Presentation Note: If your facility does not utilize bleach for C. difficile rooms, e.g., if you use hydrogen peroxide, you will need to replace all bleach references within this presentation with your facility’s chosen product name and description.

HOW IS C. DIFFICILE SPREAD?

- C. difficile can be picked up on the hands from exposure in the environment.
- C. difficile spreads due to inadequate hand hygiene and improper environmental cleaning.
- Good hand hygiene with soap and water is one of the most effective ways to prevent the spread of C. difficile.

Presenter: When a person has C. difficile, the bacteria in their feces can contaminate surfaces such as toilets, bedpans, commode chairs, door handles (if feces is on hands), wheelchairs, bedrails, and other items they touch.

Other healthy individuals can contaminate their hands if they touch these contaminated items. If these individuals then touch their mouths without washing their hands, they can become infected—if they touch other patients, those patients can become infected.
ENVIRONMENTAL PROTOCOL

C. difficile Collaborative
A GNYHA / UHF Partnership in Quality

- In 2008, Greater New York Hospital Association and United Hospital Fund formed a regional collaborative to address hospitals’ needs on C. difficile reduction.

- Goal
  - Prevent and reduce C. difficile through the implementation of a set of infection prevention interventions
    - C. difficile bundle
    - Environmental protocol

C. DIFFICILE COLLABORATIVE ENVIRONMENTAL CLEANING PROTOCOL

- Bleach/Hypochlorite-based solution
- Daily and terminal cleaning procedures
- Environmental cleaning checklist
  - 48 elements
  - Completed by environmental services employee
  - Sign-off by environmental services supervisor or other person determined by each hospital based on internal process for cleaning rooms

Presentation Note: If your hospital has a different way of completing the environmental services checklist, describe your procedure at this time. If your hospital tweaked the environmental cleaning checklist used during the GNYHA/UHF C. difficile Collaborative to meet your facility’s needs, describe your checklist here.

Presenter: This slide describes the general environmental cleaning checklist used by hospitals in the GNYHA/UHF C. difficile Collaborative. A little later in this presentation, you will see a snapshot of the environmental cleaning checklist.
ENVIRONMENTAL SERVICES’ ROLE IN FIGHTING C. DIFFICILE

- *C. difficile* spreads due to inadequate hand hygiene and improper environmental cleaning.

- Cleaning with the proper products is one of the best ways to prevent the spread of *C. difficile*.

Presenter: Because *C. difficile* is so easy to transfer when rooms are not properly cleaned, it’s easy to see why Environmental Services personnel play a key role in keeping our patients safe.

HOW DO I KNOW IT’S A C. DIFFICILE ROOM?

- *C. difficile* rooms are clearly marked with a sign.

- The sign on a patient’s room door lets you know the room has to be cleaned using the *C. difficile* protocol.

Presenter: An example of a sign is presented here. You may wish to amend this sign to include the contact precaution sign used at your facility.
CLEANING A C. DIFFICILE ROOM

- There are four main elements to properly cleaning a C. difficile room:
  1. Perform hand hygiene;
  2. Use personal protective equipment (PPE) such as gloves, gown, and mask;
  3. Using the proper cleaning products [insert facility policy on chemical solutions used for known and/or suspected C. difficile rooms and (optional) cleaning product photo];
  4. Follow a systematic, detailed cleaning protocol or procedure.

Presentation Note: If your facility does not have sinks readily available for soap-and-water hand-washing during routine room cleaning, review alternate policies here.

CLEANING A C. DIFFICILE ROOM

- When preparing to enter a C. difficile room:
  - First perform hand hygiene, per your hospital’s hand-hygiene policy.
  - Soap and water is more effective at killing C. difficile spores than alcohol-based hand sanitizers.
  - Then put on your PPE (e.g., gloves, gown, and mask) before entering the room.

Presentation Note:
If your facility does not have sinks readily available for soap-and-water hand-washing during routine room cleaning, review alternate policies here.

Presenter:
Review what PPE is available and where it is located.
Within our facility you can find PPE ____________________.
The PPE you should wear when entering and cleaning a C. difficile room is ____________________.
DAILY CLEANING OF A C. DIFFICILE ROOM

- Once you are ready to enter the room, begin by cleaning “high touch” areas with bleach/hypochlorite-based disinfectant

Presentation Notes:
1. You may want to review your hospital’s policy or protocol on cleaning C. difficile patient rooms at this time.
2. You may also want to review your organization’s policy on medical equipment cleaning at this time.

Presenter:
1. As you know, “high touch” areas are surfaces that are most frequently in contact with patients, providers, and visitors. For example, door surfaces, light switches, window sills, call buttons, bedrails, phones, etc.
2. This screenshot shows the environmental cleaning checklist that was referred to earlier and developed through the GNYHA/UHF C. difficile Collaborative to monitor cleaning practices for daily and terminal cleaning. We are first going through the daily cleaning procedure.

DAILY CLEANING OF A C. DIFFICILE ROOM

- Next, damp dust:
  - Television
  - Television Stand
  - Then, clean the lights (if bed is empty)

Presentation Note: Presenter should discuss any policies that come into play when a room is cleaned with a patient in it, e.g., never dust an overhead light while the patient is in the bed, etc.
DAILY CLEANING OF A C. DIFFICILE ROOM

- Clean the bathroom with bleach/hypochlorite-based disinfectant
- Be sure to carefully disinfect:
  - Bathroom doorknob
  - Mirror
  - Tub/shower
  - Faucets (at sink)
  - Bathroom handrails
  - Sink
  - Toilet lever/flush
  - Toilet horizontal surface/seat

Presentation Note: Review facility policy for cleaning bathrooms of C. difficile patients.

DAILY CLEANING OF A C. DIFFICILE ROOM

- After cleaning the bathroom surfaces, clean the floor
  - Dust mop tile
  - Wet mop tile

Presentation Note: Insert and discuss applicable facility policy regarding floor cleaning here. For example, does your policy require a specific time before re-entry into the room?
DAILY CLEANING OF A C. DIFFICILE ROOM

- After daily cleaning is complete, exit the room and:
  - Remove trash, mops, soiled curtains, and linens
  - Discard wipes, cloths
  - Dispose of PPE (e.g., gloves, gown, mask)
  - Wash hands with soap and water
- Then, re-enter the room with new PPE to replace supplies and equipment, as needed:
  - Hand sanitizer
  - Paper towels
  - Curtains
  - Bed linen
  - Trash liner

**Presenter:** Remember never to walk through the halls with PPE from a C. difficile room. Your gown, gloves, and mask may have gotten dirty while you were in the room and you could spread the C. difficile spores if you keep PPE on. Always dispose of this PPE upon exiting the room.

TERMINAL CLEANING OF A C. DIFFICILE ROOM

- Follow daily cleaning procedure, then damp dust:
  - Bed frame
  - Mattress covers
  - Pillows
  - Blood pressure cuffs
  - Remove unused linen and other such items

**Presentation Note:** If blood pressure cuffs are not managed by ES, edit this slide.

**Presenter:** Once a C. difficile patient has been discharged, follow the “terminal cleaning” protocol to ensure the next patient will not be infected. Tell environmental services staff where they can find the written policy/protocol for terminal cleaning.
TERMINAL CLEANING OF A C. DIFFICILE ROOM

- After terminal cleaning is complete, re-enter the room (it is now a clean room, so new PPE is not needed) and:
  - Remake bed with clean linen,
  - Replace pillows, mattresses, pillow covers, and mattress covers, as needed, and
  - Replace curtains, as needed.

Presentation Note: If ES removes the C. difficile sign from a C. difficile room, note this here.

REMEMBER TO SHINE

- **S**trive for Excellence
- **H**and wash with soap and water
- **I**nclude all high-touch surfaces
- **N**eutralize C. difficile spores with bleach/hypochlorite-based solution
- **E**xit the room properly (remove PPE)
SUMMARY

• Effective control of *C. difficile* depends on carefully following all of these steps for daily and terminal cleaning each time you clean a *C. difficile* room.
• Environmental Services is an integral part of the team keeping patients safe and protecting the hospital environment.

**Presentation Note:** Emphasize the integral role of environmental services and point to sources of institutional support for environmental services staff (from logistical concerns to encouraging seeking clarification when uncertainties arise).

**Presenter:** You play an important role in keeping patients safe and you are a key member of [insert facility’s name] infection prevention team.

QUESTIONS AND RESOURCES

• Insert key contact names and numbers

**Presentation Note:** Stress that staff should ask questions whenever they are unsure about something and describe the process they should follow if they spot something that strikes them as inappropriate. Examples you may wish to use to illustrate this point include: what to do if a staffer thinks a contact precaution sign should be up and it is not. What a staffer should do if they see another employee who hasn’t followed protocol, e.g., has not washed their hands.
HAND HYGIENE MONITORING TOOL INTRODUCTION

This hand hygiene monitoring tool aims to determine a health care facility’s clinical and non-clinical staff compliance with proper hand hygiene practices. Hand hygiene is defined as the cleaning of one’s hands using an alcohol-based hand rub or by washing with soap (non-antimicrobial or antimicrobial) and water, according to the specified protocols listed below.

For the purposes of this tool, hand hygiene opportunities are divided into two broad categories: (1) Before Patient Contact and (2) After Patient Contact.

Examples of “Before Patient Contact” hand hygiene opportunities include:
- Before having direct contact with a patient
- Before handling an invasive device for patient care

Examples of “After Patient Contact” hand hygiene opportunities include:
- After having direct contact with a patient
- After contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressings
- After contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient
- After removing gloves

This tool also attempts to record instances of unsatisfactory hand hygiene techniques, according to the standards set by the Centers for Disease Control and Prevention (CDC) and/or the World Health Organization (WHO). In this form, the assessment of the quality of hand hygiene techniques will be limited to the following main categories:
- Must wash hands for at least 15 seconds
- Must cover all hand and finger surfaces with alcohol-based rub or soap
- Must prevent recontamination of hands before subsequent patient contact (e.g., using a paper towel to turn off water faucet after washing and drying one’s hands).

For a complete description of hand hygiene recommendations and standards, please refer to:
HAND HYGIENE MONITORING TOOL INSTRUCTIONS

1. On the lines indicated at the top of the form, write the name of the observed unit/department, record the month and year, and write one’s initials.

2. Record the date of the observation, including the month, day, and year. (Format: MM/DD/YY)
   - Note: Each interaction with a patient constitutes a “Before Patient Contact” opportunity and an “After Patient Contact” opportunity. For example, a health care worker’s interaction with two patients in a single room will be considered two observations.

3. Indicate the shift during which the observation is made (day, evening, or night).

4. Using the key below the chart, indicate the health care worker type being observed by using the corresponding number.

5. If the patient is placed under contact precautions, check the box labeled “Yes” under “Contact Precautions.” Do not check this box if other forms of isolation precautions are assigned to the room (e.g., airborne).

6. Hand Hygiene BEFORE:
   - If the health care worker cleans his or her hands with an alcohol-based hand rub before patient contact, check the box labeled “HR” under “Hand Hygiene BEFORE.”
   - If the health care worker cleans his or her hands with soap and water before patient contact, check the box labeled “HW” under “Hand Hygiene BEFORE.”
   - If the health care worker does not clean his or her hands before patient contact, check the box labeled “No” under “Hand Hygiene BEFORE.”
   - If one does not observe the actions of the health care worker before patient contact, check the box labeled “N/A” under “Hand Hygiene BEFORE.”

7. If the health care worker dons gloves after entering the patient’s room, check the box labeled “Yes” under “Gloves Worn.”

8. Hand Hygiene AFTER:
   - If the health care worker cleans his or her hands with an alcohol-based hand rub after patient contact, check the box labeled “HR” under “Hand Hygiene AFTER.”
   - If the health care worker cleans his or her hands with soap and water after patient contact, check the box labeled “HW” under “Hand Hygiene AFTER.”
   - If the health care worker does not clean his or her hands after patient contact, check the box labeled “No” under “Hand Hygiene AFTER.”
   - If one does not observe the actions of the health care worker after patient contact, check the box labeled “N/A” under “Hand Hygiene AFTER.”
   - Note: if a health care worker cleans his or her hands after patient contact and immediately enters another patient’s room, the observation of hand hygiene at this time is considered both as “After Patient Contact” for the first patient and “Before Patient Contact” for the second patient.

9. Quality Assessment:
   - If the health care worker performs hand hygiene but fails to wash for at least 15 seconds, check the box labeled “Duration: <15 seconds” under “Quality Assessment.” (The CDC standards recommend rubbing hands together until dry when using alcohol-based rubs and rubbing hands together vigorously for at least 15 seconds when using water and soap. For the purposes of this tool, the 15-seconds target is applied to both hand hygiene techniques.)
   - If the health care worker does not apply the alcohol-based rub or soap to all hand and finger surfaces, check the box labeled “Failure to wash all hand surfaces” under “Quality Assessment.”
   - If the health care worker recontaminates his or her hands after performing hand hygiene, check the box labeled “Recontamination before pt. contact” under “Quality Assessment.”
   - Note: The above categories are meant to evaluate a health care worker’s general hand hygiene technique and thus should be marked regardless of when the poor technique is observed. There is no need to check a box multiple times if the health care worker makes the same mistake both before and after patient contact.

10. Additional remarks that further clarify or explain an observation should be written in the section labeled “Additional Comments.”
# HAND HYGIENE MONITORING TOOL

Patient Care Unit/Dept: ____________________       Month/Year: ____________________       Initials of Monitor: ________________

<table>
<thead>
<tr>
<th># Obs</th>
<th>Date</th>
<th>Day</th>
<th>Eve</th>
<th>Night</th>
<th>Shift</th>
<th>HCW Type</th>
<th>Contact Precautions</th>
<th>Hand Hygiene Before</th>
<th>Gloves Worn</th>
<th>Hand Hygiene After</th>
<th>Quality Assessment</th>
<th>Additional Comments</th>
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<td></td>
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<td>HR</td>
<td>HW</td>
<td>No</td>
<td>N/A</td>
<td>Duration &lt;15 sec.</td>
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<td></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>All hand surfaces not covered</td>
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<td>2</td>
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<td></td>
<td></td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Recontamination before pt. contact</td>
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<tr>
<td>3</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

HEALTH CARE WORKER (HCW) TYPE:

1 = Physician
2 = House Officer
3 = Physician Support Staff
4 = Respiratory Therapist
5 = Registered Nurse
6 = IV Team
7 = Continuing Care/Social Worker
8 = Pastoral Care
9 = Physical Medicine Staff
10 = Environmental Services Worker
11 = Patient Transporter
12 = Radiology Tech.
13 = Dietitian
14 = Tray passer
15 = Other

Please refer to the “Hand Hygiene Monitoring Tool Instructions” form for instructions on how to properly use this tool.
APPENDIX I:
HOSPITAL POLICY FOR USE OF BATHROOM, COMMODE, AND BEDPANS IN PATIENTS WITH C. DIFFICILE

MONTEFIORIE MEDICAL CENTER
INFECTION PREVENTION & CONTROL MANUAL

SUBJECT: Guidelines for the use of Bathroom, Commode, and Bedpans in Patients Suspected or Confirmed with Clostridium difficile infection (CDI)
EFFECTIVE DATE: 11/09
REVISED DATE: 12/09
DISTRIBUTION: Infection Prevention & Control Manual Holders

PURPOSE: To provide a standard of care which reduces the potential for transmission of Clostridium difficile infection (CDI). All activities are performed in accordance to Standard Precautions and Isolation Procedures.

Adhere to the following guidelines when caring for patients suspected or confirmed with CDI.

1. Place patient in private room and use dedicated bathroom.
   - Bathroom will be cleaned daily and when soiled by the environmental services associates using bleach products.
   - Nursing associate will flush contents from the bedpan or commode into toilet; thoroughly rinse and dry the items after flushing.

2. Cohort patients with confirmed CDI together (Do not cohort suspected and confirmed cases together).
   - Dedicate bathroom use to one patient only (consider patient nearest to bathroom or ambulating patient).
   - Dedicate bedpan or commode to the other patient sharing the room.
   - Flush contents from the bedpan or commode into toilet in the shared patient’s room.
   - Bathroom will be cleaned daily and when soiled by the environmental services associates using bleach products.
   - Notify Environmental Services if soiling of the bathroom occurs.
Appendix I: Hospital Policy for Use of Bathroom, Commode, and Bedpans in Patients with *C. difficile* cont.

3. Do not discard contents of bedpan or commode in bedpan hopper located in the soiled utility room.
   - If a bathroom is not available, e.g. ICU/ED/Dialysis/Radiology, etc., use disposable bedpan; seal bedpan in red bag and discard in red waste receptacle in soiled utility room.
   - Private room without bathroom: use the nearest bathroom to empty, rinse and dry bed pan or commode. Coordinate with environmental service associate to clean the bathroom with bleach directly following use.

4. Discarding of soiled diapers or chux (adult/pediatrics):
   - If reusable chux is used, cover with disposable chux. Dispose reusable chux (if not grossly soiled) in soiled linen hamper.
   - Place disposable diaper or disposable chux in a red plastic bag; seal and discard in large receptacle in patient’s room.
   - If large receptacle is not available, discard bagged items in red lined waste receptacle in soiled utility room.
   - Store a supply red plastic bags and disposable chux in the barrier cart/wall unit.

5. Discontinuation of Isolation:
   - Bathroom will be cleaned with bleach products by the *environmental services associate*.
   - Commode will be emptied, rinsed clean and dried by *nursing associate*.
   - Moses Division: Bleach products will be used by *environmental services associate* to thoroughly wipe down commode before placing in soiled utility room for Central Supply pick-up.
   - North/Weiler Divisions: The cleaned commode will be cleaned with bleach by *environmental services associate* during terminal cleaning of the room; it will be covered with plastic and stored on the unit in a designated clean location.

Brian Currie, MD, Hospital Epidemiologist, Vice President and Medical Director for Research
Audrey Adams, RN, MPH, Director of Infection Prevention & Control
APPENDIX J: BEST PRACTICES FOR OVERALL IMPROVEMENT

CASE STUDIES FROM C. DIFFICILE COLLABORATIVE: SUMMARY OF PRACTICES IMPLEMENTED BY A SUB-SET OF PARTICIPATING HOSPITALS

The following table captures shared lessons learned from four hospitals who have implemented a quality improvement program to reduce *C. difficile* infections. The first column identifies common themes or topics that hospitals needed to address as part of an effective intervention. Every other column describes each hospital’s approach to addressing these issues.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>HOSPITAL A</th>
<th>HOSPITAL B</th>
<th>HOSPITAL C</th>
<th>HOSPITAL D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Status</td>
<td>Major teaching hospital</td>
<td>Major teaching hospital</td>
<td>Major teaching hospital</td>
<td>Non-major teaching hospital</td>
</tr>
<tr>
<td>Number of beds</td>
<td>1,350</td>
<td>639</td>
<td>188</td>
<td>249</td>
</tr>
</tbody>
</table>
| Establish Notification System of Positive *C. difficile* Test | Microbiology identifies significant epidemiological pathogens and uses alert system to notify unit. | • Infection preventionist notifies the unit and nurse providing care to the patient with *C. difficile*.  
• Environmental service supervisors use bed tracking system to identify isolation rooms that need cleaning. | Lab notifies unit and infection preventionist.  
• Lab also placed in the EHR.  
• Infection prevention department sends environmental services supervisors a list of patients on isolation. |
| Infection Prevention Bundle Education and Compliance     | Infection Preventionists observe infection prevention bundle practices during routine rounds and provide corrective actions, when necessary. | Web-based system used to train new support and clinical staff. | • Standardized program, especially regarding proper hand-hygiene practices used to educate and certify most staff.  
• Infection Preventionists observe infection prevention practices during daily rounds to ensure compliance and provides corrective actions or one-on-one staff education when necessary. | • Infection preventionist observes bundle practices during rounds, focusing on isolated or high-risk patients.  
• Staff in patient care areas conduct hand-hygiene observations. |
| Environmental Cleaning Education and Compliance          | • Environmental services supervisors conduct observations and provide education/re-education, when necessary.  
• Environmental services meets quarterly with infection preventionists to review infection prevention strategies, including process for room cleanings.  
• Glow germ/ultraviolet light used to test room cleanliness. | Environmental services supervisors educate new support staff on cleaning practices during orientation and conduct random assessments of cleaned rooms. | • Building services department uses standardized protocol to train housekeepers.  
• Head of Building Services educates new staff and observes room cleanings. | • Environmental services staff are trained on department-specific infection prevention practices.  
• In-services educate housekeepers on proper hand hygiene.  
• Environmental services supervisors perform routine audits and inspections of housekeepers’ cleaning practices.  
• Black light used to test room cleanliness. |
### Designation of Shared, Dedicated, and Disposable Equipment

| Designation of Shared, Dedicated, and Disposable Equipment | • Disposable stethoscope and blood pressure cuff.  
Shared wall-mounted thermometers (cleaned through terminal cleaning of isolation room). | • Disposable stethoscope, blood pressure cuff, and thermometers. | Dedicated equipment for patients on isolation until discharge, unless it is necessary to move equipment (protocol is in place for this situation). | Disposable stethoscope, blood pressure cuff, and thermometers. |

### Policies and Procedures for Equipment Cleaning Between Patients

| Policies and Procedures for Equipment Cleaning Between Patients | • Nursing cleans and rinses commodes for their patients.  
Housekeeping responsible for disinfecting commodes between patients. | Support staff use sani-wipes between patients and at discharge. | Policies currently being developed. | Nursing assistant usually cleans shared equipment with chlorine-based disinfectant. |

### Strategies to Engage Front-Line Staff in Infection Prevention

| Strategies to Engage Front-Line Staff in Infection Prevention | • Bi-monthly lunch meetings with Infection Prevention Coaches to review data and identify improvement areas.  
Newsletters and bulletin boards used to share infection prevention successes.  
“Champions” rewarded with coach buttons that identify them as infection prevention leaders.  
“Best practice certificates” given to units that are high performers. | Team empowered to make observations and address non-compliance immediately.  
Monthly unit “dash boards” containing infection data disseminated to front line staff and leadership. | • Infection Preventionist provides monthly data to the building services team to identify improvement areas.  
Building services team conducts weekly meetings with building services personnel.  
Infection Preventionist provides on the spot education for staff as needed. | Bulletin boards and staff meetings used to share monthly data with leadership and staff. |

### Strategies Used to Sustain Reductions in *C. difficile* Rates

| Strategies Used to Sustain Reductions in *C. difficile* Rates | • Highly involved environmental services.  
Regular rounds conducted by infection prevention team to monitor bundle compliance.  
Monthly discussion of issues found.  
Ongoing data monitoring and feedback. | Collaboration between environmental services, nursing, and infection prevention emphasized.  
Review isolations on daily basis.  
Ongoing data monitoring and feedback. | Ongoing data monitoring and feedback. | Collaboration between environmental services, nursing, and infection prevention emphasized.  
Educating staff on the prevention bundle as part of the standard practice.  
Ongoing data monitoring and feedback. |