



*Office for*  
**Oregon Health Policy and Research**

**Clostridium Difficile Infection (CDI) Laboratory and  
Prevention Practices Survey  
Oregon Hospitals**

**December 2011**

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Authority

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**Clostridium *difficile* Infection (CDI) Laboratory and Prevention Practices Survey**  
**Oregon Hospitals**  
**Office for Oregon Health Policy and Research**  
**December 2011**

**Purpose**

The purpose of this survey was to evaluate training needs for reporting and prevention practices, as the state prepares to begin reporting of CDI in January 2012 using the National Healthcare Safety Network (NHSN). The information from this survey will be submitted to providers and to the Healthcare Acquired Infections (HAI) Advisory Committee.

Summary results and graphs are provided for the two sections of the survey: laboratory practices and prevention practices. The original survey tool is presented in *Appendix A*.

**Response Rate**

- 100% response rate: all 60 hospitals responded.

**Laboratory Practices**

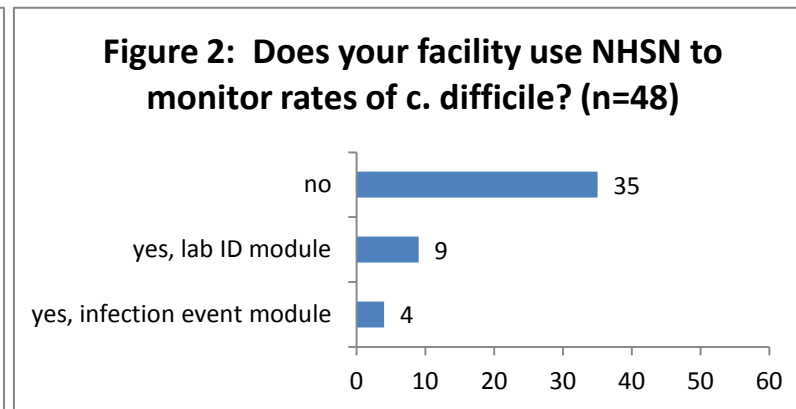
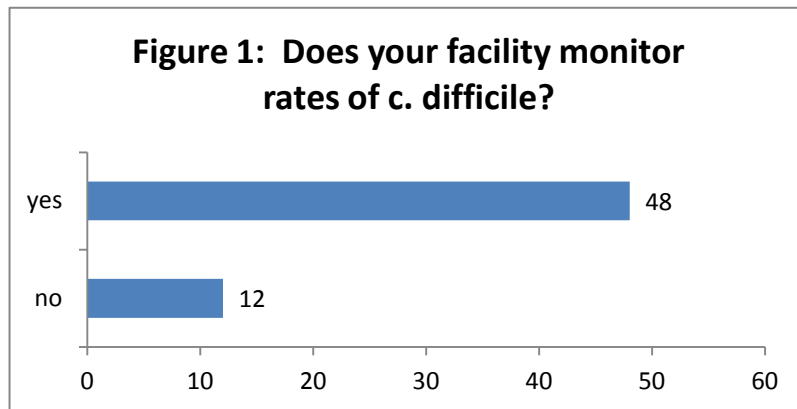
- 80% (48) track rates of CDI. Of these, 27% (13) use NHSN to track CDI, and 29% (14) use definitions from the National Health and Safety Network (NHSN)/The Centers for Disease Control and Prevention (CDC).
- 70% (42) perform CDI testing in house; 30% (18) send specimens for CDI testing to private or community laboratories.
- 62% (37) do not performed CDI testing on formed stool specimens.
  - Note: CDI testing should not be performed on formed stools unless ilieus due to CDI is suspected.<sup>1</sup>

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<sup>1</sup> Cohen, SH et. Al. Clinical practice guidelines for Clostridium difficile infection in adults: 2010 update by the society for healthcare epidemiology of America (SHEA) and the infectious diseases society of America (IDSA). Infect Control Hosp Epidemiol. 2010 May;31(5):431-55. [www.cdc.gov/HAI/pdfs/cdiff/Cohen-IDSA-SHEA-CDI-guidelines-2010.pdf](http://www.cdc.gov/HAI/pdfs/cdiff/Cohen-IDSA-SHEA-CDI-guidelines-2010.pdf). Accessed 12/10/2011.

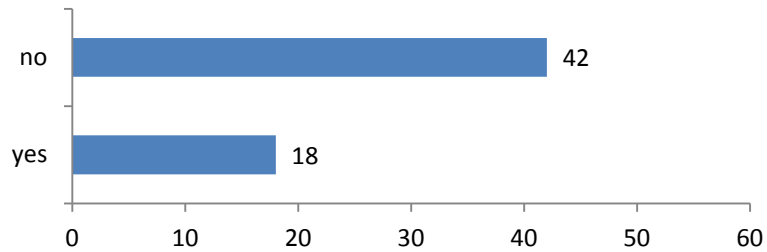
- 57% (34) facilities have a rejection policy for duplicate stool samples.
  - Note: Repeat testing during the same episode of diarrhea is of limited value and should be discouraged.<sup>1</sup>
  - Note: NHSN Lab ID CDI defines a unique specimen as a positive culture with at least 14 days between the last positive culture for the same patient.<sup>2</sup>
- 52% (31) facilities either have a lab generated multi-patient list or an infection control data mining program (e.g., MedMined, Safety Surveillor, Theradoc, Quality Compass) to provide CDI results.
- 75% (45) indicate retrospective CDI results are easily available.
- For the primary CDI testing method, 60% (36) use Toxin A/B test, 25% (15) use polymerase chain reaction (PCR), and 15% (9) use glutamate dehydrogenase (GDH) test methods. Of the 9 using GDH, 7 use GDH as part of a testing algorithm that included Toxin A/B testing with 4 of those that included cytotoxin testing as well. Two hospitals reported using GDH as primary and PCR as secondary test methods.
- 53% (32) use PCR as either a primary (15) or secondary (17) CDI testing method. Four additional facilities reported it had plans to change its CDI testing to include PCR in the near future.

**Additional Graphs on Laboratory Practices (n = 60, unless noted otherwise)**

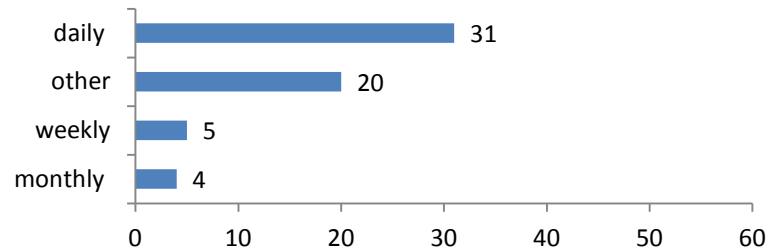


<sup>2</sup> National Healthcare Safety Network (NHSN). C. difficile Infection Surveillance and C. difficile Lab ID reporting. [http://www.cdc.gov/nhsn/mdro\\_cdad.html](http://www.cdc.gov/nhsn/mdro_cdad.html). Accessed 12/10/2011.

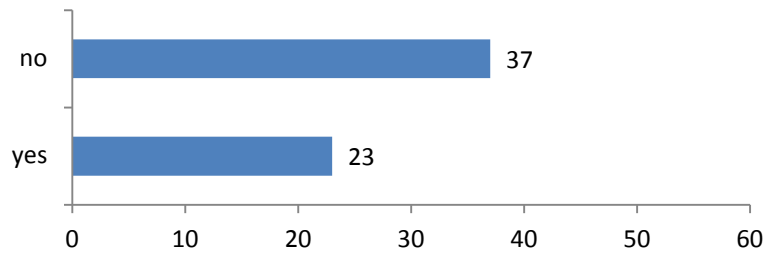
**Figure 3: Is your C. difficile testing outsourced to a laboratory?**



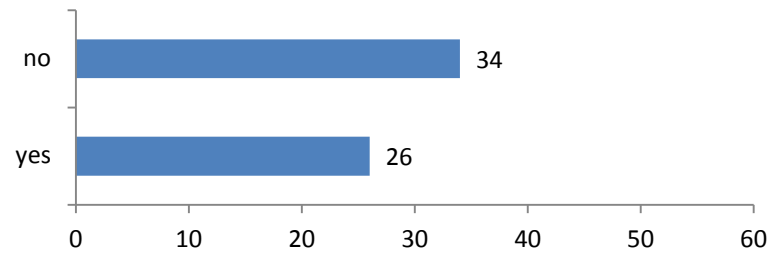
**Figure 4: How frequently do you receive inpatient C. difficile tests from lab?**



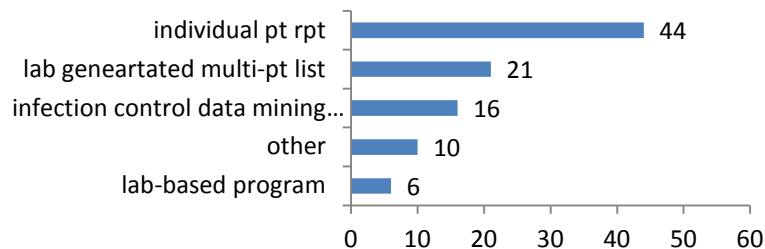
**Figure 5: Does the lab perform C. difficile tests on formed stool?**



**Figure 6: Does your lab have a rejection testing policy for duplicates?**



**Figure 7: C. difficile test results provided  
as: (check all that apply)**

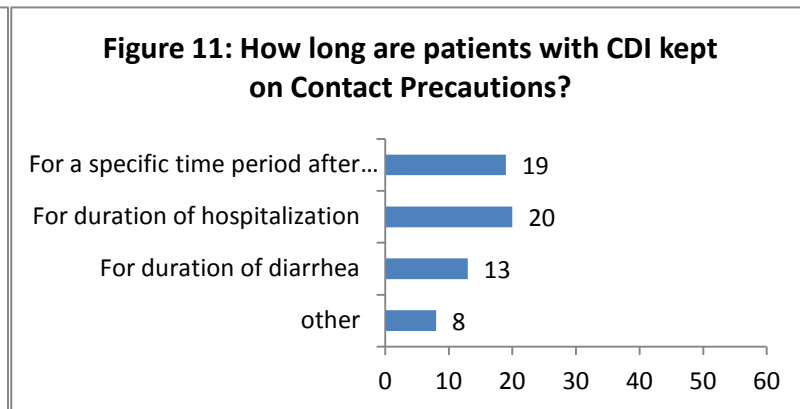
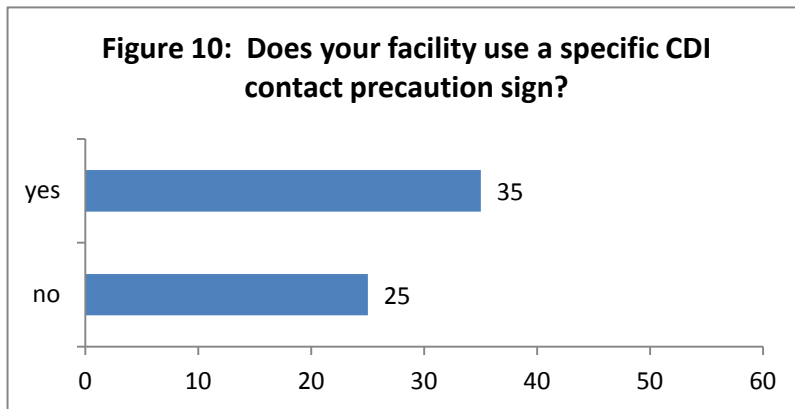
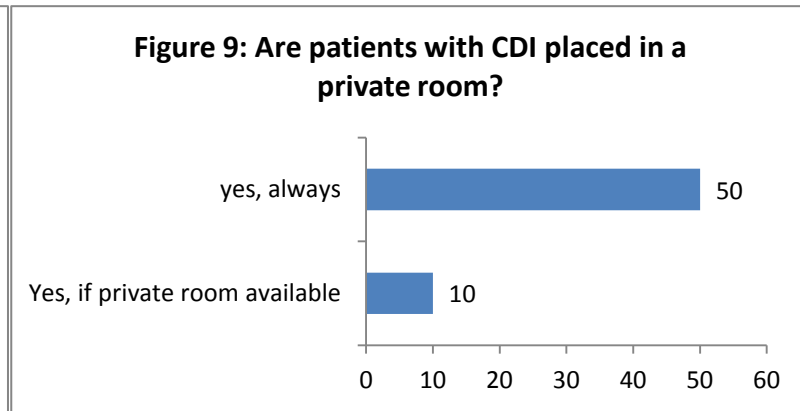
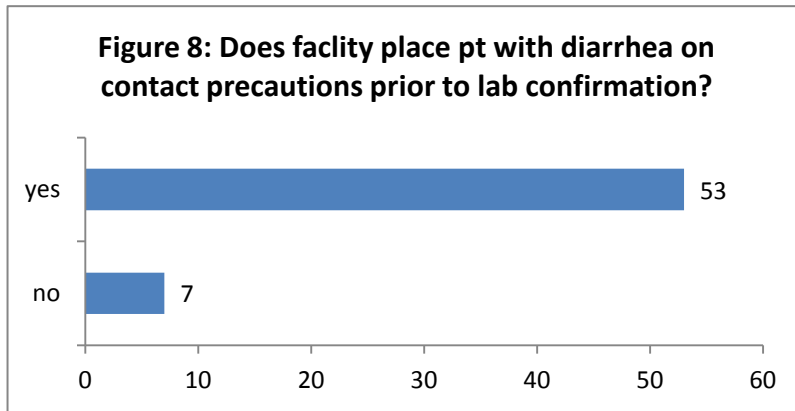


### **Prevention Practices**

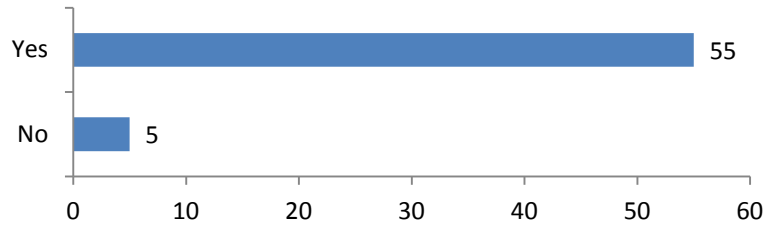
- 88% (53) place patients with diarrhea on contact precaution prior to lab confirmation.
- 58% (35) use a specific CDI contact precaution sign.
- Reported length of time patients with CDI were placed on contact precautions included: 33% (20) for duration of hospitalization, 32% (19) for specific time after diarrhea resolves, and 22% (13) for duration of diarrhea. The other category included until treatment completed and diarrhea resolves, until culture comes back negative, duration of stay, and additional policies to get patient out of isolation.
- 87% (52) use soap and water as the hand hygiene method for CDI patients.
- 87% (52) routinely use bleach-product for environmental disinfection at their facility.
- 63% (38) have specific person(s) responsible for antibiotic use.
- 28% (17) restrict the use of antibiotics. Of the 17 facilities that restrict antibiotics, 71% (12) have the pharmacy approve antibiotic use, 53% (9) the infectious disease specialist, and 24% (4) noted others, which included the Pharmacy and Therapeutics Committee and the Infection Control Committee.
- 55% (33) have an education program to reduce CDI transmission. Of the 33 facilities with an education program, 46% (26) conduct it annually, 40% (24) upon hire, and 15% (9) when job duties change to include direct patient care. For the 33

facilities with an education program, all of them trained nursing and other staff providing direct care, 94% (31) trained cleaning staff, 52% (17) staff responsible for sterilization/high-level disinfection, and 45% (15) medical staff.

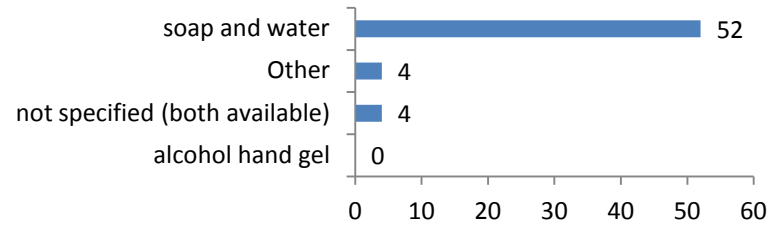
**Additional Graphs on Prevention Practices (n = 60, unless noted otherwise)**



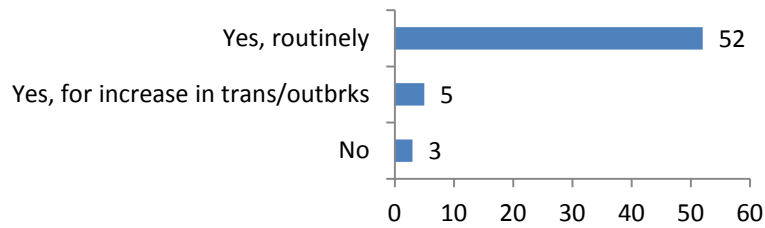
**Figure 12: Does your facility use dedicated noncritical medical items for patients with CDI?**



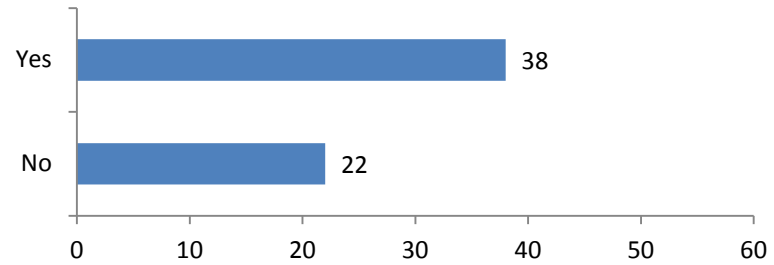
**Figure 13: For CDI patients, what is the recommended method of hand hygiene in your facility**



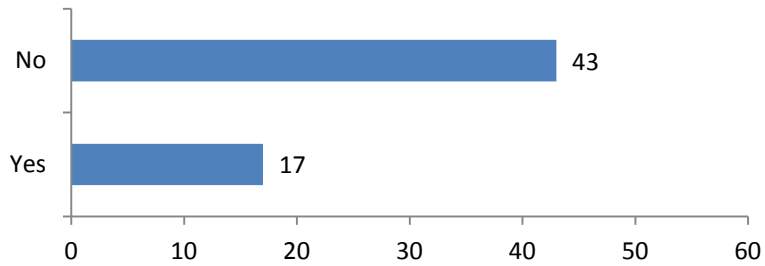
**Figure 14: Is bleach-product used for environmental disinfection for CDI pt at your facility?**



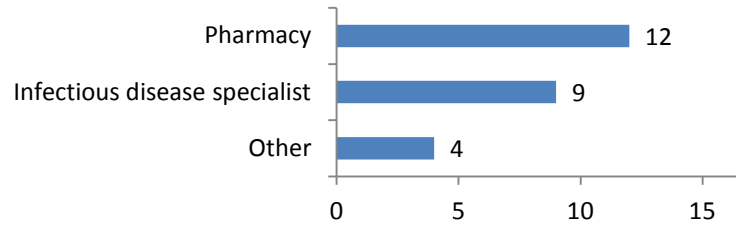
**Figure 15: Does your facility have specific person(s) responsible to review antibiotic use?**



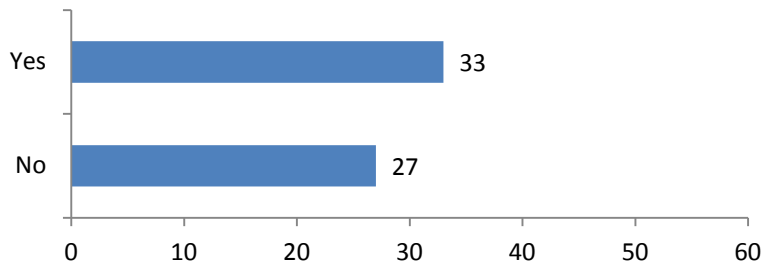
**Figure 16: Does your facility restrict use of antibiotics?**



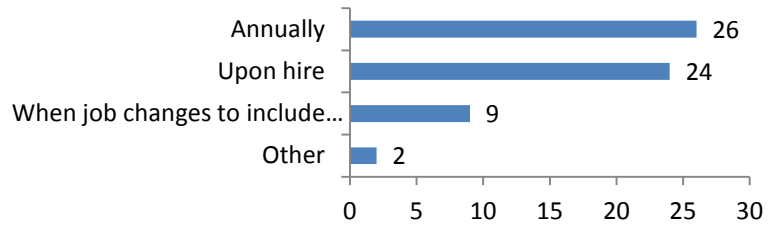
**Figure 17: If you restrict use of antibiotics, who approves use of restricted antibiotics? (check all that apply, n = 17)**



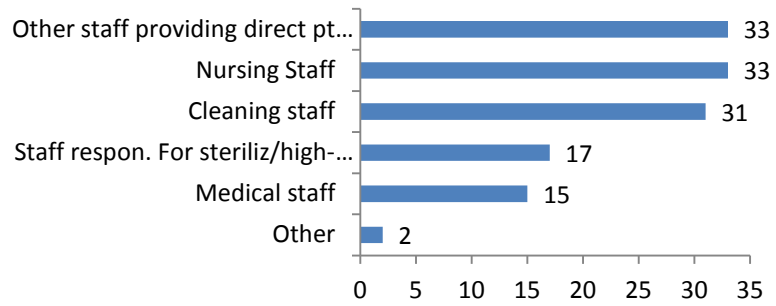
**Figure 18: Does your facility have education program on reducing transmission of CDI?**



**Figure 19: If you have an education program on CDI, how often is it given? (check all that apply, n=33)**



**Figure 20: If you have an education program on CDI, which staff are included?  
(check all that apply, n=33)**



## **Appendix A**

### **Clostridium Difficile Survey Tool**



7. The *C. difficile* test results provided as: (check-✓ -all that apply)
- Individual patient report found on daily laboratory reports
  - Laboratory generated multi-patient list
  - Generated from infection control data mining program (e.g, Medmined™/Theradoc™)
  - Generated by infection control from a laboratory based program (e.g., Meditech™/Cerner™)
  - Other (describe) \_\_\_\_\_
8. What is the primary test method your laboratory uses to detect *C. difficile*?
- Toxin A antigen only (ELISA or EIA)
  - Toxin A and B antigen (ELISA or EIA)
  - Anaerobic microbiology culture
  - Cytotoxin (CTX) assay (toxin B)
  - glutamate dehydrogenase (GDH) or Common Antigen: Date began using: \_\_\_/\_\_\_/\_\_\_
  - PCR/ Date began using \_\_\_/\_\_\_/\_\_\_
9. Which confirmatory test is performed for equivocal (ambiguous) test results? (check- ✓ -all that apply).
- None
  - Repeat primary test method
  - Tissue culture: Date began using: \_\_\_/\_\_\_/\_\_\_
  - PCR Date began using: \_\_\_/\_\_\_/\_\_\_
  - Other: describe: \_\_\_\_\_
10. If you do not currently use PCR as the primary test method, is your Laboratory considering using PCR as the primary test method?  NO
- a. If YES, date to start: \_\_\_/\_\_\_/\_\_\_ or  unknown
11. Is the *C. difficile* retrospective information easily retrievable from laboratory information system?
- Yes
  - No If NO Explain challenges or barrier:  
 \_\_\_\_\_  
 \_\_\_\_\_
- The following are questions (12-23) assessing *C. difficile* (CDI) Prevention Practices currently in place in your hospital.
12. Indicate how much you agree or disagree with the following statement: **The control and prevention of CDI is a priority at my facility.**
- Strongly agree
  - Agree
  - Neither agree or disagree
  - Disagree
  - Strongly disagree
13. Does your facility routinely place patients with unexplained diarrhea on Contact Precautions prior to laboratory confirmation?
- Yes
  - No. If not, why not? \_\_\_\_\_
14. In your facility, are patients with CDI placed in a private room?
- Yes, Always
  - Yes, if private room available
  - No, per isolation policy
  - No, no private rooms available

15. If your facility does **not** have a sufficient number of private rooms available, what does your facility do with patients who are identified with CDI (please check all that apply)?
- Cohort with other CDI patients and share bathroom
  - Cohort with other CDI patients but use separate commodes/bathrooms
  - Create a private room by blocking off a bed in a semi-private room
  - Place with other non-CDI patients but use separate commodes/bathrooms
  - Place with other non-CDI patients sharing bathrooms
  - Other (please specify: \_\_\_\_\_)
  - Not Applicable
16. Does your facility use a specific CDI contact precaution sign?
- Yes
  - No
17. How long are patients with CDI kept on Contact Precautions?
- For duration of diarrhea
  - For duration of hospitalization – until discharge
  - For a specified time period after diarrhea resolves (please specify time period: \_\_\_\_\_)
  - Other (please specify: \_\_\_\_\_)
18. Does your facility use dedicated noncritical medical items (such as blood pressure cuffs or stethoscopes) for patients with CDI? (Note: this means the medical items are not used on any other patient)
- Yes
  - No
19. For CDI patients, what is the recommended method of hand hygiene in your facility?
- Soap and water
  - Alcohol hand gel
  - Not specified (i.e., both available but neither preferred)
  - Other (please specify: \_\_\_\_\_)
20. Is a bleach-product used for environmental disinfection for CDI patients at your facility?
- Yes, routinely
  - Yes, but only for suspected increase in transmission or outbreaks
  - No
- a. If YES, when is it used (please check all that apply)?
- For terminal cleaning
  - For daily cleaning
  - Other (please specify: \_\_\_\_\_)
21. Does your facility have a specific person (or people) responsible for reviewing antibiotic utilization with the goal of promoting the judicious use of antimicrobial agents?
- Yes
  - No
22. Does your facility currently restrict the use of any antibiotic?
- Yes
  - No
- a. If yes, who approves the use of restricted antibiotics?
- Pharmacy

- Infectious disease specialist
- Intensivist
- Hospitalist
- Other: \_\_\_\_\_

23. Does your facility have an education or training program for staff on reducing the transmission of CDI (the program may deal with other issues but must specifically review your facility's program to control CDI and include topics such as the transmission of CDI and measures to prevent transmission)?

- Yes
- No

24. If you do have an education or training program regarding CDI, how often is it given (check-✓ -all that apply):

- Upon hire
- When job duties change to include patient care
- Quarterly or more frequently
- Semiannually
- Annually
- Other

25. If you do have an education or training program regarding CDI, which staff categories are included in the training (check-✓ -all that apply):

- Medical Staff
- Nursing Staff
- Other staff providing direct patient care
- Staff responsible for sterilization/high-level disinfection
- Cleaning staff
- Other (please specify): \_\_\_\_\_

