

Using the Guide to Patient Safety (GPS) and Targeted Assessment for Prevention (TAP) to Assess CDI Prevention Efforts



Presenter

Jeff Rohde, MD

Clinical Associate Professor of Internal Medicine
University of Michigan

Contributions by

Erik Dubberke, MD

Washington University School of Medicine

Linda Greene, RN, MPS, CIC, FAPIC

University of Rochester, Highland Hospital

Karen Jones, RN, MPH, CIC

University of Michigan



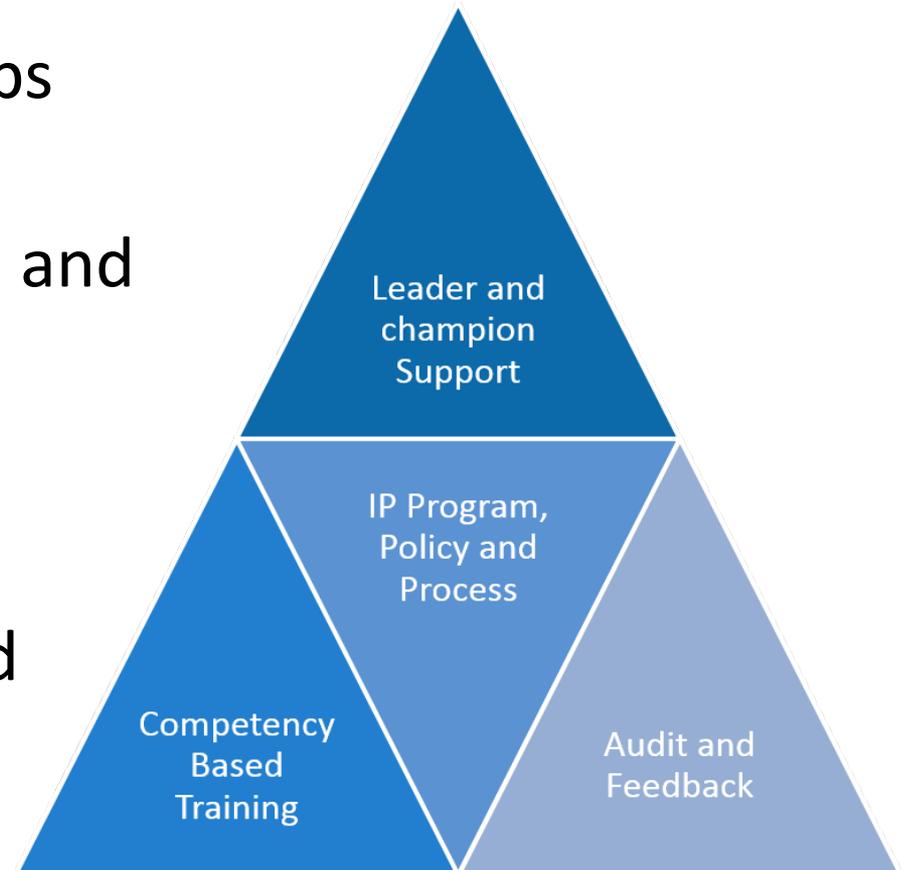
Objectives

- Describe the components of the Guide to Patient Safety (GPS) tool and Targeted Assessment for Prevention (TAP) Strategy
- Explain how the GPS tool and TAP Strategy can be used to identify barriers to CDI prevention
- Discuss strategies for addressing these barriers in order to implement prevention practices in your unit or hospital

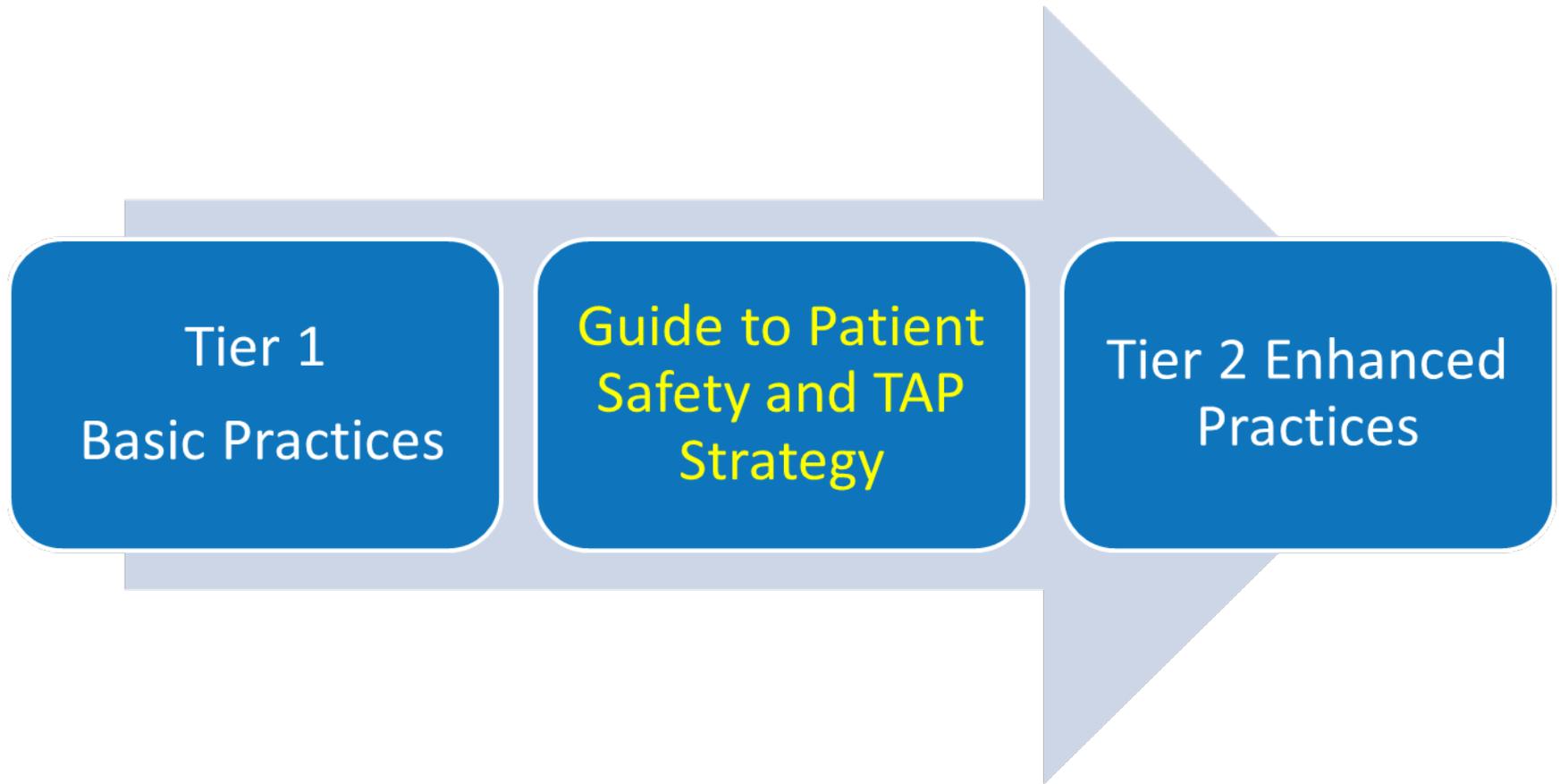


Assessing for Areas of Improvement

- Initial assessments of gaps
- Barriers exist to technical and adaptive practices
- Identifying solutions is necessary to improve and sustain efforts



Making Forward Progress



Moving to the next level

TIER 1 Standardize Supplies, Procedures and Processes

(complete all interventions: review and audit compliance with Tier 1 measures prior to moving to Tier 2)

Implement antibiotic stewardship interventions specific to CDI	Conduct early, appropriate CDI testing and alert staff of CDI status	Prevent transmission of CDI through strict glove use and hand hygiene	Initiate Contact Precautions promptly when patients test positive for CDI and maintain for duration of CDI illness	Ensure cleaning and disinfection of equipment and environment	Monitor health care onset-CDI rates and share with staff and leadership
--	--	---	--	---	---

(if CDI rates remain elevated, start with CDI Guide to Patient Safety (GPS) and Target Assessment for Prevention (TAP) Strategy and then proceed with additional interventions)



Tier 2 Enhanced Practices

Initiate Contact Precautions while CDI results are pending (for symptomatic patients) and prolong until discharge after patient becomes asymptomatic	Implement environmental cleaning process tools (audit checklists) and use of an EPA sporicidal agent	Implement hand hygiene with soap and water as preferred method on exit of room with targeted training and monitoring of staff compliance
--	--	--

*Environmental Protection Agency (EPA) list of sporicidal agents: <https://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium>



Guide to Patient Safety (GPS) Development

Contents lists available at ScienceDirect

 **American Journal of Infection Control** 

journal homepage: www.ajicjournal.org

Major Article

Qualitative validation of the CAUTI Guide to Patient Safety assessment tool 

Kathlyn E. Fletcher MD, MA ^{a,b,*}, Jeanne T. Tyszka MA ^b, Molly Harrod PhD ^{c,d}, Karen E. Fowler MPH ^{c,d}, Sanjay Saint MD, MPH ^{c,d,e}, Sarah L. Krein PhD, RN ^{c,d,e}

^a Clement J. Zablocki VA Medical Center, Milwaukee, WI
^b Center for Patient Care and Outcomes Research, Medical College of Wisconsin, Milwaukee, WI
^c Center for Clinical Management Research, Veterans Affairs Ann Arbor Healthcare System, Ann Arbor, MI
^d Veterans Affairs/University of Michigan Patient Safety Enhancement Program, Ann Arbor, MI
^e Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, MI

- To understand why some hospitals are better than others in preventing infection
 - Mixed-methods national studies, focused on three device-related infections
 - Funded by VA, NIH and AHRQ
 - Conducted phone interviews and site visits to hospitals across the U.S.
- Challenge: Site visits require considerable time and resources
- Solution: A self-administered tool
- GPS is a brief, self administered troubleshooting guide
- Creates an opportunity for dialogue and discussion among team members which can uncover:
 - Barriers
 - Potential Solutions to those barriers
 - Gaps
- Directs to other tools and resources



GPS for CDI Questions

1. Do you have a well functioning team (or work group) focusing on CDI prevention?
2. Do you have a team leader with dedicated time to coordinate your CDI prevention activities?
3. Do you have an effective physician champion for your CDI prevention activities?
4. Is senior leadership supportive of CDI prevention activities?
5. Do you routinely collect CDI-related data (e.g., incidence, prevalence, compliance with prevention practices) in the unit(s) or populations in which you are intervening to reduce infection?
6. Do you routinely feed back CDI-related data to frontline staff and physicians? (e.g., incidence, prevalence, compliance with prevention practices, etc.)?
7. Is staff empowered to speak up and remind colleagues about proper hand hygiene and personal protective equipment use?
8. Do you conduct audits and provide feedback on the effectiveness of environmental cleaning?
9. Do you have an antibiotic stewardship team that includes at least one physician and one pharmacist?
10. Does your laboratory reject formed stools if submitted for CDI testing?
11. Are clinicians educated as to when to order CDI testing?



CDI GPS in Action

- General Hospital participating in STRIVE to reduce CDI rates
 - Do not routinely audit hand hygiene or PPE use for contact precautions
 - Do not require environmental services staff to demonstrate competency of cleaning CDI rooms
- Leaders will not provide additional resources for improvement
- Unit level staff are not engaged in CDI prevention efforts
- Team lead does not have enough time to share CDI data at the unit level



What are the Barriers?

- Do you have a team leader with dedicated time to coordinate your CDI prevention activities?
- Do you have an effective nurse/physician champion for your CDI prevention activities?
- Is senior leadership supportive of CDI prevention activities?
- Do you routinely feed back CDI-related data to frontline staff (e.g., incidence, prevalence, compliance with prevention practices)?
- Do you conduct audits and provide feedback on the effectiveness of environmental cleaning?



Solutions to Barriers

Barriers	Possible Solutions
Lack of effective nurse or physician champions	<ul style="list-style-type: none">• Identify individuals who are passionate about the program and take pride in providing excellent care• Ensure they have some dedicated time to commit to the program, at least initially• Consider co-champions to lighten the work load and provide mutual support.• Recognize them for their effort
Team leader does not have dedicated time to focus on CDI prevention	<ul style="list-style-type: none">• Identify a person with leadership skills, enthusiasm, persistence, credibility, AND time to dedicate to the program
Lack of CDI data feedback to frontline staff	<ul style="list-style-type: none">• Tailor the feedback to your audience• Consider sharing outcome and process data
Lack of effective partnership with environmental services	<ul style="list-style-type: none">• Identify an engaged member of environmental services management• Get buy-in and provide regular feedback on progress
Lack of senior leadership support	<ul style="list-style-type: none">• Engage executive leadership by providing data and a business case to demonstrate the need for time and resources for CDI prevention



Challenges with Enhanced Practices

- Require additional resources
 - e.g., Extended Contact Precautions
- Require additional staff training
 - e.g., Specialized environmental cleaning tools and products
- Require additional auditing and feedback
 - e.g., Monitoring soap and water hand hygiene compliance



Targeted Assessment for Prevention (TAP) Strategy

- Developed by the Centers for Disease Control and Prevention (CDC)
- Framework for quality improvement that uses data to drive actions
- Uses data already entered into the National Healthcare Safety Network (NHSN)
- Comprised of three components



(The Targeted Assessment for Prevention (TAP) Strategy, CDC, 2017)



CDI TAP Reports

- Generate in NHSN
- Use the standardized infection ratio (SIR) to generate a CDI cumulative attributable difference (CAD)
 - CAD = Observed # HAIs – (Predicted # HAIs x SIR goal)**
 - **SIR:** A summary measure to track HAIs over time that compares the observed number of HAIs reported to what would be predicted
 - **CAD:** A measure that shows the difference between the number of observed infections and predicted infections multiplied by a SIR goal for a defined period
- **TAP Report Resources:**
 - [NHSN Guidance](#)
 - [NHSN's Guide to the SIR](#)
 - [TAP 'How to Guide' –Individual Facility User](#)



TAP Assessments

Date of Assessment: _____

Facility Name or ID: _____

Facility Type: _____ Other, Please Specify: _____

Unit Name or ID: _____

Unit Type: _____

Title or role of person completing tool: _____ Other, Please Specify: _____

Years of experience at facility: _____ (Numeric Response)

I. General Infrastructure, Capacity, and Processes	Response	Comments (and/or "As Evidenced By")
1. Does your facility's senior leadership actively promote CDI prevention activities?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	
2. Is unit-level leadership involved in CDI prevention activities?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	
3. Does your facility have a team/work group focusing on CDI prevention?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	
4. Does your facility have a staff person with dedicated time to coordinate CDI prevention activities?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	
5. Does your facility have a nurse champion for CDI prevention activities?	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	
6. Does your facility have a physician champion for CDI prevention	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unk	

<https://www.cdc.gov/hai/pdfs/tap/CDI-TAP-Facility-Assessment-Tool-v4.0-July2016-Reader-Enabled.pdf>



TAP CDI Implementation Guide

TAP Clostridium difficile infection (CDI) Implementation Guide: Links to Example Resources



Disclaimer: The links in the domains below are not mutually exclusive nor do they represent an exhaustive list of all the possible resources available. Furthermore, the links presented do not constitute an endorsement of these organizations or their programs by the Centers for Disease Control and Prevention (CDC) or the federal government, and none should be inferred.

Also refer to the following guidelines:

[Strategies to Prevent *Clostridium difficile* Infections in Acute Care Hospitals: 2014 Update](#)

[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 \(IDSA\)](#) [PDF - 25 pages]

Other relevant [CDC guidelines](#).

[CDI Prevention Primer Slide Set](#) [PPT - 7.3 MB]

- > I. General Infrastructure, Capacity, and Processes
- > II. Antibiotic Stewardship
- > III. Early Detection and Isolation, Appropriate Testing
- > IV. Contact Precautions/Hand Hygiene
- > V. Environmental Cleaning
- > VI. Laboratory Practices



Click image of the TAP Implementation Guide to access tool



TAP Strategy Resources

- **Help with TAP Reports:** email NHSN@cdc.gov
- **TAP website:** <http://www.cdc.gov/hai/prevent/tap.html>
- **NHSN Quick Reference Guides:** <https://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html>
- **TAP ‘How to Guide’ –Individual Facility User:**
<https://www.cdc.gov/hai/pdfs/prevent/TAP-Guide-for-Individual-Facility-User.pdf>
- **CDI TAP Facility Assessment Tool:** <https://www.cdc.gov/hai/pdfs/tap/CDI-TAP-Facility-Assessment-Tool-v4.0-July2016-Reader-Enabled.pdf>
- **TAP CDI Toolkit Implementation Guide: Link to Example Resources:**
<https://www.cdc.gov/hai/prevent/tap/cdiff.html>

Soe MM, Gould CV, Pollock D, Edwards J. Targeted Assessment for Prevention of Healthcare-Associated Infections: A New Prioritization Metric. *Infect Control Hosp Epidemiol.* 2015; 36(12):1379-84.



Next Steps

- Share the GPS and TAP assessment tools with the multidisciplinary CDI team
- Work through the tools as a group to identify barriers, ensuring frontline staff are involved
- Discuss how barriers might affect implementation of enhanced practices
- Develop a plan to create solutions



References

- Fletcher KE, Tyszka JT, Harrod M, Fowler KE, Saint S, Krein S. Qualitative validation of the CAUTI Guide to Patient Safety assessment tool. *Am J Infect Control*. 2016; 44(10): 1102-09.
- Saint S, Gaies E, Fowler KE, Harrod M, Krein S. Introducing a catheter-associated urinary tract infection (CAUTI) prevention guide to patient safety (GPS). *Am J Infect Control*. 2014; 42(5): 548-50.
- Soe MM, Gould CV, Pollock D, Edwards J. Targeted Assessment for Prevention of Healthcare-Associated Infections: A New Prioritization Metric. *Infect Control Hosp Epidemiol*. 2015; 36(12):1379-84.
- The Targeted Assessment for Prevention (TAP) Strategy. Centers for Disease Control and Prevention, CDC. Updated March 20, 2017. Available at <https://www.cdc.gov/hai/prevent/tap.html>. Accessed October 26, 2017.



Speaker Notes



Speaker Notes: Slide 1

Welcome to the first module of the Tier 2, or enhanced intervention, modules to prevent *Clostridioides difficile* infection, CDI. This module, titled “Using the Guide to Patient Safety (GPS) and Targeted Assessment for Prevention (TAP) to Assess CDI Prevention Efforts,” will provide an overview of how the CDI Guide to Patient Safety, or GPS and the Targeted Assessment for Prevention, or TAP, can be used to help re-examine your CDI data and prevention efforts and help direct you towards specific enhanced CDI prevention interventions.



Speaker Notes: Slide 2

The module was developed by national infection prevention experts devoted to improving patient safety and infection prevention efforts.



Speaker Notes: Slide 3

After completing this module, you will be able to:

- Describe the components of the Guide to Patient Safety (GPS) tool and Targeted Assessment for Prevention (TAP) Strategy;
- Explain how the GPS tool and TAP Strategy can be used to identify barriers to CDI infection prevention; and
- Describe strategies for addressing these barriers to implementing infection prevention practices in your unit or hospital.



Speaker Notes: Slide 4

Through initial assessments of gaps, teams can identify both technical barriers, for example, lack of hand hygiene supplies, and adaptive barriers, like not having a process to feedback CDI data to frontline staff.

In Tier 1 interventions, teams focus on improving their basic practices CDI prevention. As we move into Tier 2, or enhanced interventions, it is important to take a moment to pause, review the progress and identify any additional solutions that can help improve and sustain the CDI improvement efforts.



Speaker Notes: Slide 5

The Tier 1 modules discuss the basic components of a CDI prevention program that should be in place, including leader and champion support, competency-based training, audit and feedback of prevention practices and various CDI program policies and processes. Many teams may feel that they are fully implementing all of the Tier 1 best practices, but still aren't seeing improvements in their hospital or unit's CDI rate. The CDI GPS* and TAP Strategy are two tools for teams to use to assess their CDI prevention practices and highlight gaps or barriers that may be impacting their CDI reduction success. These tools also act as a pivot point to prompt teams to move on to Tier 2 or more enhanced interventions.



Speaker Notes: Slide 5 Continued

It is important to take a moment to pause, review your progress and identify any additional solutions that can help improve and sustain your CDI improvement efforts.

*The CDI GPS tool was developed by faculty and staff from the Department of Veterans Affairs and the University of Michigan using funding support from the Department of Veterans Affairs, the University of Michigan, and the National Institutes of Health (NIH). This tool was validated, and disseminated using funding support from the Agency for Healthcare Research and Quality (AHRQ), the Department of Veterans Affairs, and the University of Michigan.



Speaker Notes: Slide 6

Here you can see the CDI prevention framework and how completing the GPS assessment is the first piece to Tier 2. The GPS may help teams identify Tier 1 interventions to revisit and reexamine before moving on to Tier 2.



Speaker Notes: Slide 7

Mixed-methods indicates that qualitative data were collected, generally through a survey, and quantitative data such as infection rates were also collected to obtain a more in-depth picture of what hospitals were doing. This work was funded by a variety of sources, including the Veteran Affairs Hospitals (VA), National Institutes of Health (NIH), and Agency for Healthcare Research and Quality (AHRQ). This qualitative work included phone interviews and site visits to hospitals across the United States, including small and large hospitals, academic medical centers, as well as rural hospitals.



Speaker Notes: Slide 8

For CDI prevention, here are the Guide Patient Safety questions that your team should answer:

1. Do you have a well functioning team (or work group) focusing on CDI prevention?
2. Do you have a team leader with dedicated time to coordinate your CDI prevention activities?
3. Do you have an effective physician champion for your CDI prevention activities?
4. Is senior leadership supportive of CDI prevention activities?
5. Do you routinely collect CDI-related data (e.g., incidence, prevalence, compliance with prevention practices) in the unit(s) or populations in which you are intervening to reduce infection?



Speaker Notes: Slide 8 Continued

6. Do you routinely feed back CDI-related data to frontline staff and physicians? (e.g., incidence, prevalence, compliance with prevention practices, etc.)?
7. Is staff empowered to speak up and remind colleagues about proper hand hygiene and personal protective equipment use?
8. Do you conduct audits and provide feedback on the effectiveness of environmental cleaning?
9. Do you have an antibiotic stewardship team that includes at least one physician and one pharmacist?
10. Does your laboratory reject formed stools if submitted for CDI testing?
11. Are clinicians educated as to when to order CDI testing?



Speaker Notes: Slide 9

Let's consider a fictional example to help illustrate how GPS can be used to identify barriers.

General Hospital is participating in the STRIVE program because they have an increased *Clostridioides difficile* infection rate. On their initial Practice Change Assessment, the hospital indicated that they do not routinely audit staff hand hygiene or personal protective equipment (PPE) compliance for patients diagnosed with CDI on contact precautions and do not require environmental services staff to demonstrate competency of disinfection and cleaning practices of CDI contaminated rooms and patient care equipment.



Speaker Notes: Slide 9 Continued

During a check-in call, the infection preventionist tells the state partners that he feels like it has been extremely difficult to make any progress in their efforts in the program. He admits that leadership does not support their efforts to reduce CDI as evidenced by their lack of willingness to provide additional training time for environmental service staff to demonstrate competency for cleaning precaution rooms. Additionally, he states that improving hand hygiene and PPE auditing has been difficult because managers and staff at the unit level are not engaged in the improvement work.



Speaker Notes: Slide 9 Continued

He has tried to get staff more involved, but none of the nurses or physicians have stepped up or offered to help on the unit level. Finally, he would like to start sharing CDI data at the unit level, but unfortunately, he doesn't have enough time in his schedule to devote to that type of action.

He expresses his frustration with the current status of his hospital's CDI prevention efforts.



Speaker Notes: Slide 10

If this team completed the GPS assessment questions, let's review where this team's major barriers would be.

It does not appear that this team leader has enough dedicated time to coordinate his CDI prevention efforts. Based on the challenges with engaging frontline staff, it does not appear that they have an effective nurse or physician champion to help with hand hygiene and PPE use monitoring.



Speaker Notes: Slide 10 Continued

The team leader stated that senior leadership is not supportive of providing the resources needed for CDI prevention activities. He also stated he would like to provide feedback and data to frontline staff, but due to his own time limitations, this is just not possible. Lastly, it also does not appear that this team leader has an effective partnership with environmental services to ensure competency of disinfection and cleaning practices.



Speaker Notes: Slide 11

Now that we have identified the major barriers for General Hospital, let's look at some possible solutions.

First, we've identified a lack of effective nurse or physician champions:

The infection preventionist should identify individuals who are passionate about CDI prevention and take pride in providing excellent care. These individuals can become part of the core CDI prevention team; the infection preventionist can't do this important work on his own. He should also ensure that these team members have some dedicated time to commit to the program, at least initially. It is important to recognize these individuals for their effort as well.



Speaker Notes: Slide 11 Continued

If time constraints are an issue, the infection preventionist should consider co-champions to lighten the workload and provide mutual support. The Strategies for Infection Prevention course provides a lot of great strategies for engaging staff and recruiting champions.

Second, the infection preventionist/team leader does not have dedicated time to focus on CDI prevention:

For this example, the solution will mainly focus on the team leader's time dedicated to the program, as he otherwise appears to be dedicated and have the skills. Having the support of senior leadership is usually the first step in getting dedicated time.



Speaker Notes: Slide 11 Continued

Third, the lack of feedback of CDI data to frontline staff: Sharing information can be a great way to engage staff in prevention efforts. The infection preventionist can use data that are already being collected, but he should tailor the feedback and presentation of these data to match the necessary audience. Consider sharing both outcome and process data.



Speaker Notes: Slide 11 Continued

Fourth, the lack of effective partnership with environmental services: The first step in this process is identifying an engaged member of the team and ensure that they have buy-in to the project and can impact the outcomes. Environmental services staff may have good suggestions for cleaning and disinfecting improvement efforts.

Lastly, is the lack of senior leadership support: Engage executive leadership by providing data and a business case to demonstrate the need for time and resources for CDI prevention. Consider reviewing the Business Case course for strategies and information to include when engaging senior leaders.



Speaker Notes: Slide 12

As we demonstrated in the case study, implementation of the best practices can be inhibited by barriers that exist within a team. Identifying and resolving these barriers is even more important as we move to the enhanced practices. Enhanced practices are more complex in nature and may require additional resources and time. We will discuss these strategies in detail in the next module.



Speaker Notes: Slide 13

The Targeted Assessment for Prevention Strategy, or the TAP Strategy, is a quality improvement framework developed by the Centers for Disease Control and Prevention (CDC). The goal of the TAP Strategy is to help hospitals use their own data for action in their HAI prevention efforts.

The TAP Strategy consists of three components:

1. Target: Running TAP reports in NHSN to target units with excess burden of HAIs.
2. Assess: Administering TAP Facility Assessment Tool to identify gaps in infection prevention in the targeted locations.
3. Prevent: Accessing infection prevention resources within the TAP Implementation Guides to address those gaps.



Speaker Notes: Slide 13 Continued

To date hospitals and state partners can run TAP reports and use TAP assessments for CAUTI, CLABSI and CDI prevention. Additional tools are being planned



Speaker Notes: Slide 14

TAP reports are the first component of the TAP Strategy, and are generated in NHSN using the standardized infection ratio, or SIR. The SIR is a summary measure that is used to track HAIs over time, it compares the observed number of HAIs reported in NHSN to what would be predicted give a standard population. TAP reports translate the SIR into a CAD, or cumulative attributable difference, which tells us the number of infections that would need to be prevented to reach that particular HAI reduction goal, or SIR goal. CDI TAP Reports can be run for the entire hospital, or you may drill down to the individual unit level.



Speaker Notes: Slide 14 Continued

It is important to note:

- The CAD is not a comparative metric so you cannot compare units or hospitals using it.
- Even if a SIR cannot be calculated for your facility or unit, you can still obtain a CAD because TAP methodology uses a target or goal SIR to calculate the CAD (refer to formula in the slide above).
- For more information about NHSN, understanding SIRs and running TAP reports we encourage you to check out the wonderful resources on the CDC's website and linked on the bottom of the slide.



Speaker Notes: Slide 15

The CDI TAP assessment, is designed to capture hospital and unit awareness and perception of CDI prevention practices, policies and barriers among healthcare staff. It should be administered to a variety of staff and healthcare personnel, including frontline providers, mid-level staff and senior leadership. You want to make sure you get a true representation of “on the floor practices.” Based on these completed assessments, the CDC will generate a hospital or unit specific feedback report, summarizing responses and calculating scores across different domains to help teams identify and prioritize CDI prevention gaps.



Speaker Notes: Slide 16

The CDI TAP assessment and subsequent feedback report are divided into six domains that align with the domains of the CDI Implementation Guide: Links to Example Resources, pictured on the slide. These domains are:

1. General infrastructure, capacity and processes
2. Antibiotic stewardship
3. Early detection and isolation, appropriate testing
4. Contact Precautions/hand hygiene
5. Environmental Cleaning
6. Laboratory Practices



Speaker Notes: Slide 17

In addition to helping hospitals and units address barriers, the TAP assessment and accompanying feedback report, like the CDI GPS, can be a great way to get everyone on the same page. It can help create a mutual understanding and awareness of prevention priorities. For more information on the TAP Strategy and how your unit or hospital can run a CDI TAP report and complete a CDI TAP assessment, please refer to the resources listed on the slide and visit the CDC TAP Strategy website.



Speaker Notes: Slide 18

Now that we have discussed what the GPS tool and TAP Strategy are and how teams can use them to identify barriers to CDI prevention, what are the next steps? Decide which assessment makes sense for your CDI prevention team to complete. Share the GPS and TAP assessment tools with your multidisciplinary CDI team and encourage discussion. Consider working through the tools as a group to identify barriers and remember that diverse opinions will bring different perspectives. Discuss how barriers might affect implementation of enhanced practices. And finally, develop a plan to create solutions to address and overcome barriers highlighted by these tools.



Speaker Notes: Slide 19

No notes.

