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

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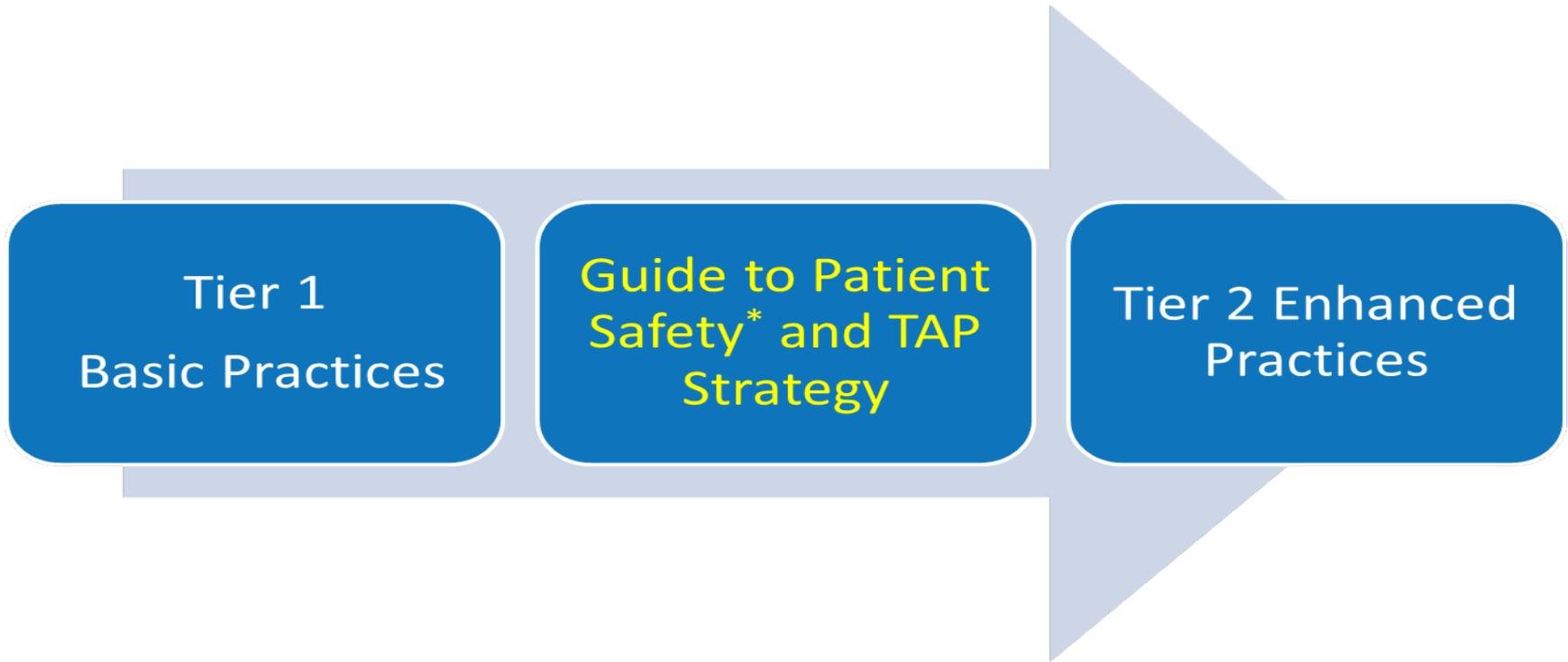Payal Patel, MD, MPH
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Learning Objectives

- 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 central line-associated bloodstream infection (CLABSI) prevention

- Discuss strategies for addressing these barriers in order to improve practices in your unit or hospital

Making Progress

Tier 1 Basic Practices → Guide to Patient Safety* and TAP Strategy → Tier 2 Enhanced Practices

*This tool is modeled on the CAUTI GPS and was adapted by a team that included subject matter experts affiliated with the University of Michigan and Department of Veterans Affairs with funding support from the Agency for Healthcare Research and Quality (AHRQ) and the Centers for Disease Control and Prevention (CDC).

Tiers of CLABSI Prevention

Tier 1 Standardize Supplies, Procedures and Processes
(complete all interventions: review and audit adherence with Tier 1 measures prior to Tier 2)

Assess appropriateness and need for Central Venous Catheter (CVC)	Select appropriate site of insertion; avoid use of femoral site	Ensure proper aseptic insertion using maximal sterile barriers and ultrasound guidance	Ensure proper care and maintenance of CVC; e.g. proper hand hygiene, adequate staffing, disinfection of connector, secure/intact dressing	Optimize prompt removal of clinically unnecessary CVCs.

(If CLABSI rates remain elevated, start with CLABSI Guide to Patient Safety (GPS) and Target Assessment for Prevention (TAP) Strategy and then proceed with additional intervention)

Perform needs assessment with CLABSI GPS and TAP Strategy

Tier 2 Enhanced Practices

Conduct multidisciplinary rounds to audit for necessity of continued CVC use	Feed back CLABSI and CVC utilization metrics to frontline staff in "real time"	Observe and document competency and adherence with CVC insertion and maintenance	Use additional approaches as indicated by risk assessment (e.g., antimicrobial coated CVC)	Root cause analysis of CLABSI

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Purpose of the GPS

Troubleshooting guide: help identify some key reasons why hospitals may not be successful in reducing CLABSIs

Identify strategies to overcome challenges and barriers

Available online for teams to download and use

The CLABSI GPS

1. Do you have a well-functioning team (or work group) focusing on CLABSI prevention?

2. Do you have a team leader with dedicated time to coordinate your CLABSI prevention activities?

3. Do you have an effective nurse champion for your CLABSI prevention activities?

4. Does your facility use a standardized central vascular catheters (CVC) insertion tray that includes chlorhexidine gluconate for skin antisepsis?

5. Do nurses stop a CVC insertion if aseptic insertion technique is not being followed?

6. Do bedside nurses take initiative and contact physicians to ensure that CVCs are removed when the device is no longer needed?

The CLABSI GPS (cont'd)

7. Do bedside nurses assess dressing integrity and replace loose, wet, soiled dressings on vascular catheters on a daily basis?

8. Do you have an effective physician champion for your CLABSI prevention activities?

9. Is senior leadership supportive of CLABSI prevention activities?

10. Do you currently collect any CLABSI-related data (e.g., CVC prevalence, CVC days, and/or CLABSI rates)?

11. Do you routinely feed back any CLABSI-related data to frontline staff and physicians (e.g., CVC prevalence, CVC days, CLABSI rates)?

12. At your facility, do patients and/or families request CVCs such as peripherally inserted central catheters (PICCs)?

13. At your facility are CVCs, such as PICCs, being inserted without an appropriate indication?

GPS Feedback Example

Question 5: Do nurses stop a CVC insertion if aseptic insertion technique was not being followed?

You indicated that nurses are not empowered to stop CVC placement if aseptic insertion technique is broken or not being followed. Empowering nurses to stop CVCs from being placed when aseptic insertion is not being followed is a key step to reducing CLABSI. The Michigan Keystone study found dramatic reductions when nurses not involved with device placement, monitored CVC insertion at the bedside and stopped the procedure if maximal sterile barriers and other antisepsis measures were not being followed. Encouraging nurses to speak up and developing a culture of patient safety such that this type of feedback is not only encouraged, but also appreciated is an important step in preventing CLABSIs.

GPS Troubleshooting Example

Do you currently have a well functioning team focusing on CLABSI Prevention?

You indicated that either you do not have a team or the one you have does not function well for preventing CLABSI. A key aspect of implementing a CLABSI prevention initiative is developing a partnership between key stakeholders (e.g., intensive care physicians, hospitalists, anesthesiologists, interventional radiologists, vascular, bedside and intensive care unit (ICU) nurses) that insert and care for central lines. Ideally, stakeholders from these specialties should be engaged in improvement within an implementation team in your hospital or unit. This team plays a critical role in developing the CLABSI prevention initiative, assisting with implementation and monitoring CLABSI rates. Key responsibilities of this team are education, data collection and evaluation. Individuals can fill more than one role and some may be short-term and others longer-term.

Getting on the Same Page

Observed Barrier
- – Physicians often have limited insight into formal CLABSI prevention practices on their units

Examples
- – Physicians have no idea what data are collected or reported to frontline staff regarding CLABSI
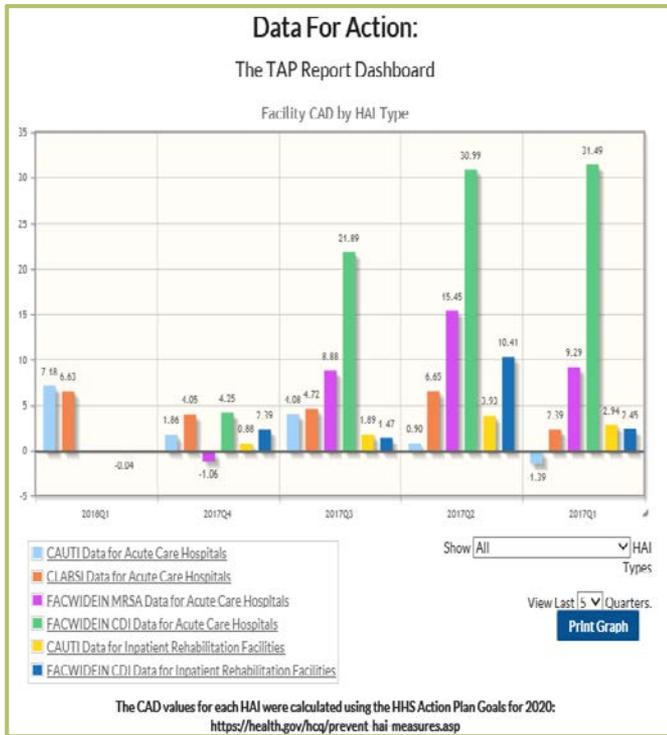- – Physicians often aren't aware of best practice for CVC care and maintenance

Solution
- – Have physicians take the GPS and use as an opportunity to discuss identified gaps

CLABSI TAP Reports

Generate in NHSN

Used to identify and target individual units

Data For Action:
The TAP Report Dashboard

Facility CAD by HAI Type

The CAD values for each HAI were calculated using the HHS Action Plan Goals for 2020:
https://health.gov/hcq/prevent hai measures.asp

An example TAP Report for an individual facility user displayed below, ranking the units by their CADs. Definitions for variables displayed within NHSN TAP Reports are listed at the end of this guide in the TAP Glossary.

Individual Facility TAP Report – CAUTI example

National Healthcare Safety Network
TAP Report for CAUTI Data for Acute Care and Critical Access Hospitals (2015 Baseline)
Locations Ranked by CAD Within a Facility
SIR Goal : HHS Goal = 0.75

As of: February 16, 2019 at 2:00 PM
Date Range: All BS2_TAP summaryYr 2018 to 2018

CDI and MRSA data are reported to NHSN on a facility-wide basis. Thus, TAP Reports for CDI and MRSA will only display facility-wide CADs and will not provide unit-level rankings or unit-level CADs.

No. of pathogens outside the parentheses represents total no. of pathogens reported. Only most common pathogen types are presented in parentheses, and some events may have > one type of pathogen.

Facility				Location								
Facility Org ID	Facility Name	Facility CAD	Location Rank	Location	CDC Location	Events	Urinary Catheter Days	DUR %	CAD	SIR	SIR Test	No. Pathogens (EC, ESP, PA, KS, PS, ES)
1000	DHQP Memorial	5.73	1	SICU	IN:ACUTE:CC:S	5	502	81	3.38	2.31	SIG	5 (0, 3, 1, 1, 0, 0)
			2	NEURO	IN:ACUTE:CC:N	3	257	77	1.58	1.58		3 (0, 0, 1, 0, 2, 0)
			3	BURN	IN:ACUTE:CC:B	2	162	61	1.10	1.67		2 (1, 0, 0, 0, 0, 0)
			4	REHAB	IN:ACUTE:WARD:REHAB	1	76	11	0.18	0.91		1 (0, 0, 0, 0, 1, 0)
			5	2N	IN:ACUTE:WARD:M	1	239	20	-0.20	0.63		1 (0, 0, 0, 0, 0, 0)
			6	6S	IN:ACUTE:WARD:M	1	261	20	-0.31	0.57		1 (0, 0, 0, 0, 0, 0)

If location-level CADs are the same in a given facility, their ranks are tied.
(EC, ESP, PA, KS, PS, ES)= No. of E. Coli, Enterobacter species,
P. aeruginosa, K. pneumoniae/K. oxytoca, Proteus species, Enterococcus species
DUR % not calculated if device days or patient days are missing at facility level
SIR is set to '.' when expected number of events is < 1.0
SIR TEST = 'SIG' means SIR > SIRgoal significantly
LOCATION CAD = (OBSERVED_LOCATION - EXPECTED_LOCATION*0.75)

Rounding the CAD up to a whole number when explaining the data to leadership ensures that they understand how many infections they would have needed to prevent to reach the SIRgoal.

The SIR will display as missing when the predicted number of events is less than 1.0.

If nothing is listed under SIRtest, the SIR is not significantly higher than the SIRgoal. 'SIG' will be displayed if the SIR is significantly higher than the SIRgoal.

CAUTI Data for Acute Care Hospitals
CLABSI Data for Acute Care Hospitals
FACWIDEIN MRSA Data for Acute Care Hospitals
FACWIDEIN CDI Data for Acute Care Hospitals
CAUTI Data for Inpatient Rehabilitation Facilities
FACWIDEIN CDI Data for Inpatient Rehabilitation Facilities

Show All / HAI Types
View Last 5 Quarters.
Print Graph

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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: _____

Do you insert, assist with insertion of, or maintain central venous catheters ("central lines") as part of your work at this facility?   ☐ Yes   ☐ No

Years of experience at facility: _____ (Numeric Response)

I. General Infrastructure, Capacity, and Processes

1.	Does your facility's senior leadership actively promote CLABSI prevention activities?	☐ Yes ☐ No ☐ Unknown
2.	Is unit-level leadership involved in CLABSI prevention activities?	☐ Yes ☐ No ☐ Unknown
3.	Does your facility currently have a team/work group focusing on CLABSI prevention?	☐ Yes ☐ No ☐ Unknown
4.	Does your facility have a staff person with dedicated time to coordinate CLABSI prevention activities?	☐ Yes ☐ No ☐ Unknown
5.	Does your facility have a nurse champion for CLABSI prevention activities?	☐ Yes ☐ No ☐ Unknown
6.	Does your facility have a physician champion for CLABSI prevention activities?	☐ Yes ☐ No ☐ Unknown
7.	Does your facility have a central line insertion bundle?	☐ Yes ☐ No ☐ Unknown
8.	Does your facility conduct an assessment to identify potential gaps when a CLABSI occurs?	☐ Yes ☐ No ☐ Unknown
Comments:	(Please specify question number as applicable)	

CLABSI TAP Facility Assessment Tool **V3.0** – Last Updated March 2018

For Internal Use Only
Survey Number: _____

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TAP CLABSI Implementation Guide

TAP Central Line-Associated Bloodstream Infections (CLABSI) Implementation Guide: Links to Example Resources

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*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.

See also the CDC 2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections

> I. General Infrastructure, Capacity, and Processes

> II. Appropriate Use of Central Venous Catheters

> III. Proper Insertion Practices for Central Venous Catheters

> IV. Proper Maintenance Practices for Central Venous Catheters

> V. Supplemental Strategies

https://www.cdc.gov/hai/prevent/tap/clabsi.html

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

CLABSI TAP Facility Assessment Tool: https://www.cdc.gov/hai/pdfs/tap/CLABSI-TAP-Facility-Assessment-Tool-v3-508.pdf

TAP CLABSI Toolkit Implementation Guide: Link to Example Resources: https://www.cdc.gov/hai/prevent/tap/clabsi.html

Next Steps

Share the GPS and TAP assessment tools with the multidisciplinary CLABSI 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

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.

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.

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.

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.

Speaker Notes

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Speaker Notes: Slide 1

This module, titled "Using the Guide to Patient Safety (GPS) and Targeted Assessment for Prevention (TAP) to Assess CLABSI Prevention Efforts" introduces strategies for units still seeing elevated rates of infection even after implementing Tier 1 strategies. These strategies will help you determine what's working and not working in your unit or hospital for CLABSI prevention and will to help you navigate through the Tier 2 interventions. The module will also provide tools and resources to help you tailor infection prevention strategies to your unit or hospital. Please also review the Tier 1 CLABSI modules in this course. These modules include topics such as indications for central venous catheter, or CVC, use, best practices for insertion, site selection and maintenance.

Speaker Notes: Slide 2

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

After completing this module, you should 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 central line-associated bloodstream infection (CLABSI) prevention; and

- Discuss strategies for addressing these barriers in order to improve prevention practices in your unit or hospital.

Speaker Notes: Slide 4

Tier 1 addresses basic components of a CLABSI prevention that all facilities should be implementing. It is important to pause, review your progress and identify any additional solutions that can help improve and sustain your CLABSI improvement efforts.

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's or unit's CLABSI rate. The CLABSI GPS and TAP Strategy are two tools to assess CLABSI prevention practices and identify gaps and barriers. These tools also act as a pivot point to prompt teams to move on to Tier 2 enhanced interventions. If improvement is needed despite fully implementing Tier 1 best practices, the CLABSI GPS and TAP should be used to address gaps and barriers.

Before focusing on the GPS, make sure to review the Tier 1 modules describing strategies for assessing appropriateness, selecting a catheter site and ensuring care and removal of central venous catheters and ensure full adherence to the basics.

The GPS module provides a deeper look at potential barriers that could be inhibiting progress. "Enhanced practices, although more time-intensive and costly, might be necessary if your unit's CLABSI rates remain elevated, they may prove more effective despite implementation of Tier 1.

The purpose of the Guide to Patient Safety is to serve as a brief troubleshooting guide. The GPS is designed to identify key reasons why hospitals or a hospital unit may not be as successful as they want to be in preventing CLABSIs. And, once those barriers are identified, it can help identify possible strategies.

The CLABSI GPS, which includes the assessment tool and troubleshooting tips, is currently available online for teams to download. So, with that background, let's take a look at the CLABSI GPS.

Speaker Notes: Slide 7

The CLABSI GPS tool is a brief assessment, consisting of 13 yes or no questions. These questions are all linked to evidence for best practices to prevent CLABSI. So the GPS, in a sense, is a diagnostic tool that highlights what you may be doing well and what might need improvement.

No notes (see slide 7).

After you complete the assessment, you will receive a targeted feedback report based upon your responses. And for those areas where you identify a possible challenge, there are links to more specific suggestions for addressing those problems. In this example, for question 5, the respondent answered that nurses were not receiving support to stop a CVC insertion if aseptic insertion technique was not being followed.

Here is another example. In this scenario, the respondent indicated that they do not currently have a well-functioning team for CLABSI prevention.

Based on the answer to this question, the GPS tool provides recommendations regarding how best to create a team, who should be included, what their role should be and what types of activities the team might engage in. This type of tailored feedback, as well as the use of additional recommended resources, are key to helping teams improve their practice.

Speaker Notes: Slide 11

One of the issues that surfaced when doing site visits was the importance of having everyone on the same page. During these visits it appeared that physicians often had no idea about formal CLABSI prevention practices on their units, they did not know what nurses do with respect to CLABSI data or its collection or what the best practices are for CVC care and maintenance.

One idea is to use the GPS as a way to get everyone on the same page. You can have physicians and nurses, for example, both take the GPS and use it as an opportunity to discuss identified gaps and differences.

TAP reports are the first component of the TAP Strategy, and are generated in NHSN in order to identify and target units that need help. TAP reports use the SIR, 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 given 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. The CAD is not a comparative metric so you cannot compare units or hospitals using it.

Speaker Notes: Slide 12 Continued

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.

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.

The CLABSI TAP assessment, like the CLABSI GPS, is designed to capture hospital and unit awareness and perception of CLABSI 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 the practices at your facility from the staff's perspective. Based on these completed assessments, generates a hospital or unit specific feedback report, summarizing responses and calculating scores across different domains to help teams identify and prioritize CLABSI prevention gaps.

Speaker Notes: Slide 14

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

1. General infrastructure, capacity and processes
2. Appropriate use of central venous catheters
3. Proper insertion practices for central venous catheters
4. Proper maintenance practices for central venous catheters
5. Supplemental strategies

Speaker Notes: Slide 14 Continued

Nested under each domain is an extensive catalogue of tools and resources to assist hospital teams in implementing CLABSI prevention best practices and addressing barriers or gaps identified by their CLABSI TAP feedback report.

In addition to helping hospitals and units address barriers, the TAP assessment and accompanying feedback report, like the CLABSI 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 CLABSI TAP report and complete a CLABSI TAP assessment, please refer to the resources listed on the slide and visit the CDC TAP Strategy website.

Now that we have discussed what the GPS tool and TAP Strategy are and how teams can use them to identify barriers to CLABSI prevention, what are the next steps? Decide which assessment makes sense for your CLABSI prevention team to complete. Share the GPS and TAP assessment tools with your multidisciplinary CLABSI 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 17

No notes.