

Competency-Based Training for Infection Prevention



Presenter

Shannon Davila, RN, MSN, CIC, CPHQ

Director of Institute for Quality and Patient Safety
New Jersey Hospital Association

Contributions by

Marcia Cooke, DNP, RN-BC

American Hospital Association (AHA)/
Health Research & Educational Trust (HRET)

Milisa Manojlovich, PhD, RN, CCRN

University of Michigan School of Nursing



Learning Objectives

- Define competency-based training
- Describe the key components of a competency-based training program for infection prevention



Improving Infection Prevention Practices



Definitions of Competency

- “The knowledge, skills, ability and behaviors that a person possesses in order to perform responsibilities correctly and skillfully.”
- “The application of knowledge and the interpersonal, decision-making, and psychomotor skills expected for the practice role.”

(O'Shea K, Hanley & Belfus, Inc., 2002; NCSBN Business Book Annual Meeting, NCSBN, 2005)



Essential Elements to Address

- All relevant healthcare personnel included in training
- Training conducted upon hire and before provision of care or specific procedures
- At least annually and when new equipment or protocols are introduced
- Include specific elements of competency by domain
- Require healthcare personnel to demonstrate competency following each training
- System of documentation of competency for each healthcare personnel



Competency Assessment

- Initial or Core Competency
 - Orientation
- Ongoing competency
 - Annually or when new skills/knowledge is introduced
- Specialized competency
 - Related to area of specialization such as device reprocessing, critical care, etc.



Different Roles: Different Competencies

physicians	pharmacists	dietary	physician assistants	nurses
environmental services personnel	lab personnel	nursing assistants	maintenance personnel	security
therapists	volunteers	students and trainees	administration	technicians
	EMS personnel	diagnostic imaging staff	contractors	

(Definition of Healthcare Personnel, CDC, 2014)



Role Specific Competency

Terminal Objective	Nursing assistant	Environmental services
Describe the different types of microorganisms (bacteria, viruses, fungi, etc.), and their role in healthcare-associated infections.	Yes	Yes
Describe antimicrobial resistance and its importance in healthcare-associated infections.	Yes	Yes
Demonstrate proper techniques for collecting, handling and transporting of laboratory specimens.	Yes	No



Diverse Audiences

- Healthcare personnel represent many different roles, cultural backgrounds, age, levels of education and literacy
- Competency-based training programs must be designed to meet the needs of diverse group of learners



Engaging the Adult Learner

Adult Learners

- Focus on what they need to know
- Set their own goals
- Are aware of their current knowledge
- Possess a wealth of life experiences
- May lack confidence or underestimate their own ability to learn (particularly if it is a new skill)
- May fear ridicule of peers

Strategies to Engage Adult Learners

- Ensure a clear understanding of expectations
- Mutually set goals
- Assess current knowledge before teaching
- Relate learning to past experiences
- Sequence learning experiences to build confidence, then challenge when comfortable
- Create safe environment for learning

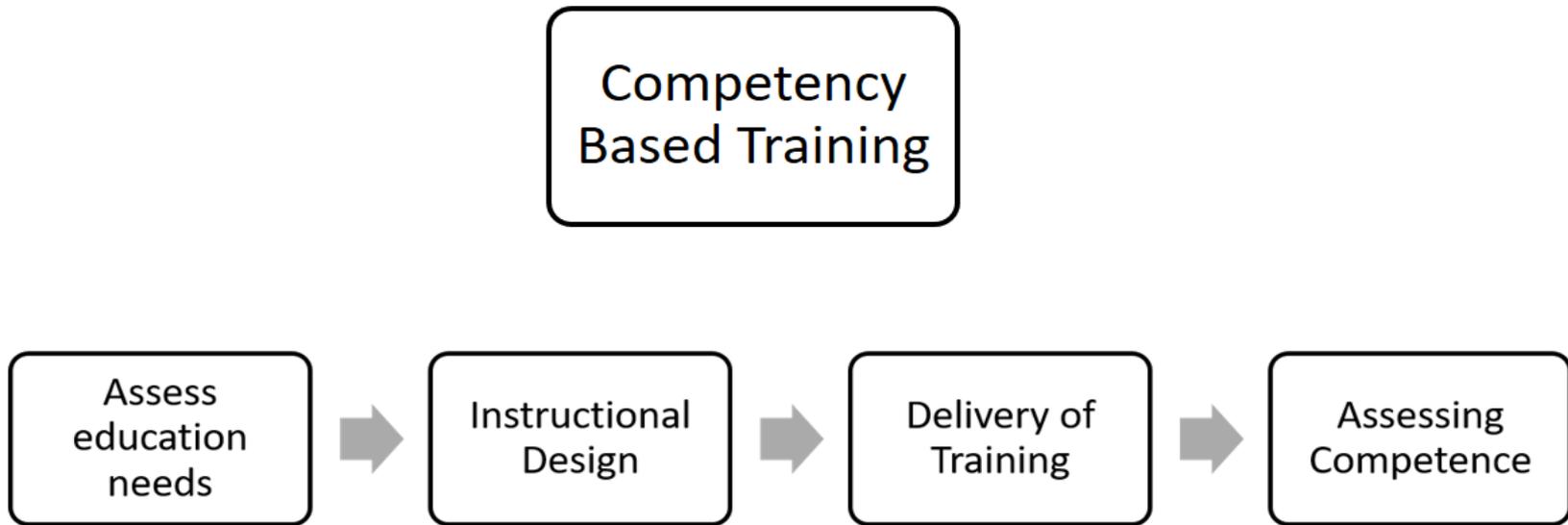


Learners Remember...

- 10% of what is READ
- 20% of what is HEARD
- 30% of what is SEEN
- 50% what is HEARD and SEEN
- 80% of what is HEARD, SEEN and DONE



Components of Competency-Based Training



Assessing Needs for Infection Prevention Training

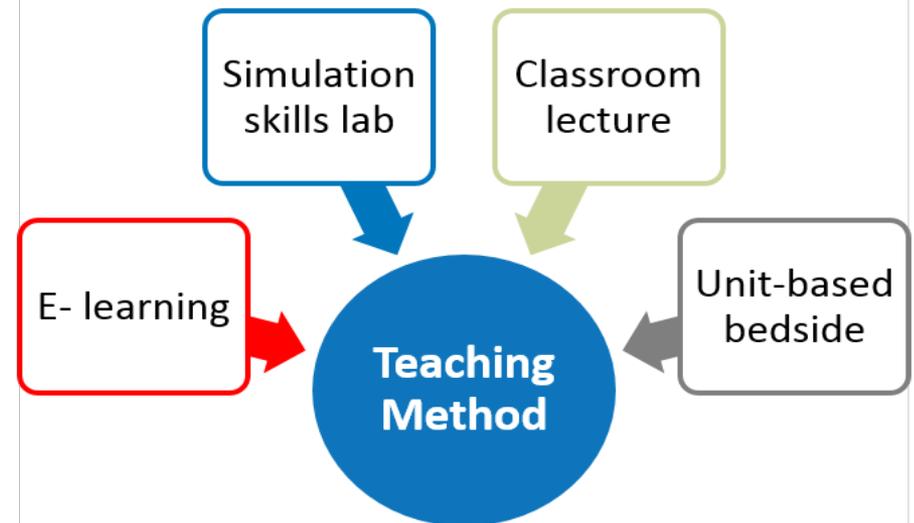
- Regulatory: Meeting federal, state or accreditation requirements
- Organizational: Orientation and annual, new products or policies and areas of risk
- Data driven: Targeted Assessment for Prevention (TAP) Strategy
- Individual needs: knowledge, skills and attitude

(Gruppen L, University of Michigan, 2010; Miller GE, Academic Medicine, 1990)



Developing Content

- Identify the competencies of focus
- Define learning objectives
- Choose an instructional method
- Provide evidence-based content

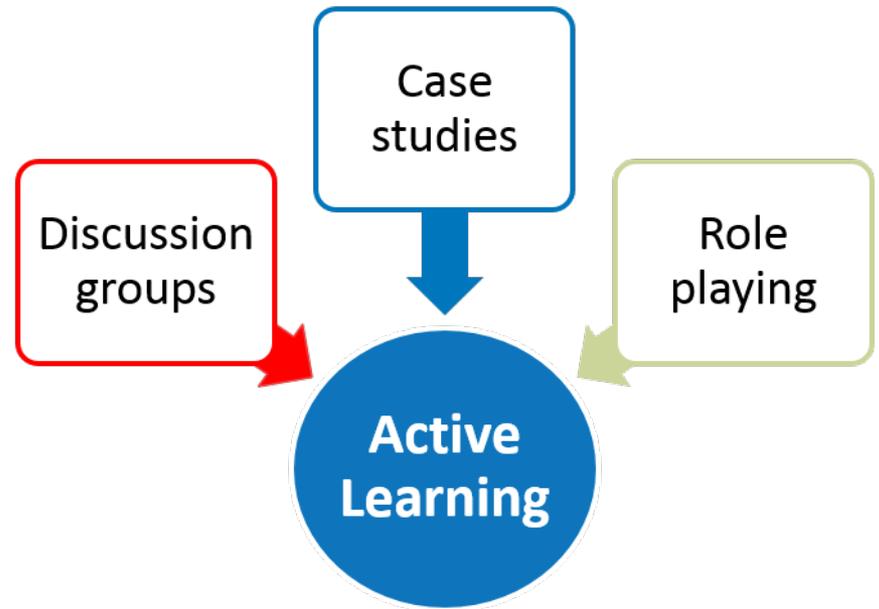


(O'Shea K, Hanley & Belfus, Inc., 2002)

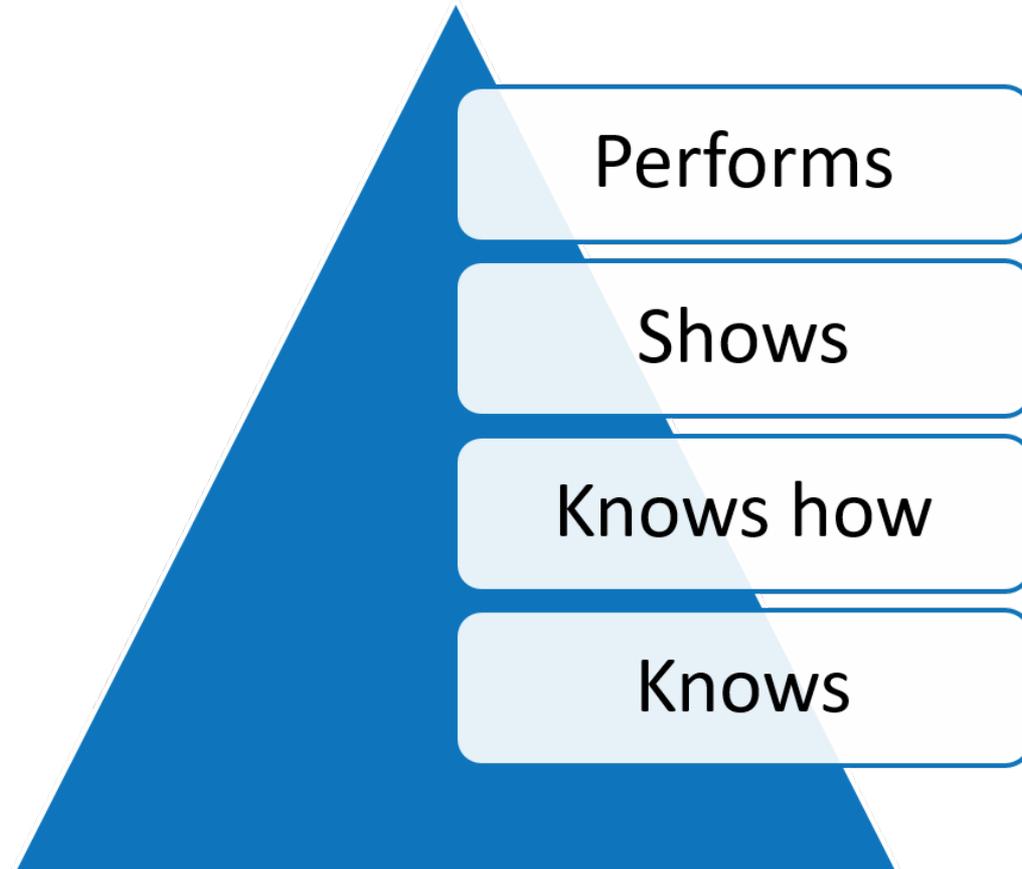


Delivering Content

- Emphasize mutual respect among learners and educators
- Consider ways to create an active learning environment
- Provide a comfortable setting that is conducive to the method of teaching



Assessing Competency



(Miller GE, Academic Medicine, 1990; Whelan L, Orthop Nurs, 2006)



Examples of Competency-Based Training Tools

- Competency Training Tools
 - CDC Targeted Assessment for Prevention (TAP) Strategy Implementation tools
 - Hand hygiene and gloving
 - Urinary catheter insertion and maintenance
 - Environmental cleaning
 - World Health Organization
 - Hand hygiene training kit



Summary

- Importance of infection prevention competency-based training for healthcare personnel
- Adult learning principles and the diverse nature of the healthcare personnel as learners
- Components of competency-based training
 - Needs assessment
 - Program design and delivery
 - Competence assessment



References

- 2016 National Patient Safety Goals. The Joint Commission. Available at https://www.jointcommission.org/standards_information/npsgs.aspx. Accessed on May 10, 2016.
- Business book: NCSBN 2005 annual meeting. Mission Possible: Building a Safer Nursing Workforce through Regulatory Excellence. National Council for State Boards of Nursing, NCSBN. 2005.
- Carrico R, Rebmann T, English JF, et al. Infection prevention and control competencies for hospital-based healthcare personnel. *Am J Infect Control*. 2008; 36(10): 691–701.
- Colthart I, Bagnall G, Evans A, et al. The effectiveness of self-assessment on the identification of learner needs, learning activity, and impact on clinical practice: BEME Guide no. 10. *Medical Teacher*. 2008; 30(2): 124–145.
- Definition of healthcare personnel. Centers for Disease Control and Prevention. Available at <http://www.cdc.gov/flu/toolkit/long-term-care/healthcare.htm>. Published April 2014. Accessed on May 15, 2016.
- Gruppen LD, Mangrulkar RS, Kolars JC. Competency-based education in the health professions: Implications for improving global health. University of Michigan. Available at <https://deepblue.lib.umich.edu/bitstream/handle/2027.42/85362/CompBasedEd.pdf?sequence=1&isAllowed=y>. Published 2010. Accessed on May 12, 2016.



References

- Hand Hygiene Starter Kit. World Health Organization. Available at http://www.who.int/gpsc/5may/tools/training_education/en/. Accessed on May 10, 2016.
- Infection Control Assessment and Response Tool. Centers for Disease Control and Prevention. Available at <https://www.cdc.gov/hai/prevent/infection-control-assessment-tools.html>. Accessed on June 29, 2016.
- Miller, GE. The assessment of clinical skills/competence/performance. *Academic Medicine*. 1990; 65(9): S63-S67.
- O'Shea K. Staff Development Secrets, Questions and Answers Reveal the Secrets to Successful Staff Development. Hanley & Belfus, Inc. 2002.
- Partnering to Heal. Office of Disease Prevention and Health Promotion. Available at <http://health.gov/hcq/training-partnering-to-heal.asp>. Accessed on May 21, 2016.
- Targeted Assessment for Prevention. Centers for Disease Control and Prevention. Available at <http://www.cdc.gov/hai/prevent/tap.html>. Accessed on May 21, 2016.
- Tilley Scott, DD. Competency in nursing: A concept analysis. *J Contin Educ Nurs*. 2008; 39(2):58-64.
- Whelan L. Competency assessment of nursing staff. *Orthop Nurs*. 2006; 25(3):198-202.



THANK YOU!



Speaker Notes



Speaker Notes: Slide 1

Welcome to this module titled “Competency-Based Training for Infection Prevention.” It is the first module of the Competency-Based Training, Audits and Feedback for Infection Prevention course.



Speaker Notes: Slide 2

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



Speaker Notes: Slide 3

The objectives of this module are to define competency-based training and to describe the key components to consider when designing infection prevention training for healthcare personnel.



Speaker Notes: Slide 4

Competencies are the measurable or observable knowledge, skills and behaviors that one demonstrates as part of their job performance. In healthcare, our patients rely on healthcare personnel to be competent within their roles including role-specific infection prevention practices. It is critical that healthcare personnel perform the competencies required to deliver appropriate evidence-based care to our patients. Competency is measured by assessing performance criteria that are based on evidence based standards.



Speaker Notes: Slide 4 Continued

Competency-based training in healthcare should be designed in way that allows flexibility to tailor the training to the different competency needs of the diverse healthcare personnel within an organization. To ensure that this education and training is translated effectively to practice, audits and feedback can promote adherence with standards of care and help sustain effective practices.



Speaker Notes: Slide 5

In the healthcare industry, there are many definitions for competency. O'Shea defined competency as the knowledge, skills and behaviors that a person possesses in order to perform responsibilities correctly and skillfully. The National Council of State Boards of Nursing define competency as the application of knowledge and the interpersonal, decision-making and psychomotor skills expected for the practice role. While these are only two definitions, there are common elements such as application of knowledge and skills.



Speaker Notes: Slide 6

When reviewing your current competency-based training program or if you are designing a new program there are six essential elements to address.

First, are all relevant healthcare personnel included in training?

Is training conducted upon hire, and before provision of care or specific procedures?

Is training offered at least annually and when new equipment or protocols are introduced?



Speaker Notes: Slide 6 Continued

Does your organization include specific elements of competency by infection prevention domain? Again, these domains include foundational areas like hand hygiene, personal protective equipment (PPE) use and environmental cleaning and practices related to the prevention of specific healthcare-associated infections (HAIs) like catheter-associated urinary tract infection (CAUTI), central line-associated bloodstream infection (CLABSI) and *Clostridioides difficile* infection (CDI).



Speaker Notes: Slide 6 Continued

Do you require healthcare personnel to demonstrate competency following each training, where correct technique must be observed by a trainer? This should take place for all competencies, keeping in mind that some areas like hand hygiene may be more challenging since large numbers of healthcare personnel would need to demonstrate competency. Finally, do you have a system of documentation of competency for healthcare personnel?

Healthcare organizations should strive to include all of these elements within their competency-based training programs.



Speaker Notes: Slide 7

Competency assessment is critical and should be evaluated throughout an individual's career. Initial or core competency may focus on the core knowledge and skills necessary for entry level practice or upon hire. This may be evaluated during the orientation period and for the nursing professional could include medication administration, infection prevention and restraints. Ongoing competency assessment can be used to validate "high risk, low frequency" knowledge and skills or to ensure that new knowledge and skills meet the required standard.



Speaker Notes: Slide 7 Continued

In many cases, periodic competency assessment is mandated by regulatory bodies. Specialized competency assessment is reserved for those who work within a defined practice area or field such as infection prevention or critical care. The responsibility for ensuring competency lies with many, including the individual, employer, professional associations and credentialing entities



Speaker Notes: Slide 8

No notes.



Speaker Notes: Slide 9

We will now discuss specific examples of competencies and how they apply to different roles. In their framework, Carrico and colleagues described terminal objectives for each area of competency and identified how those relate to different roles of healthcare personnel.

When considering infection prevention and control competencies, there are many that apply to all healthcare personnel roles, but it is important to note some differences depending on the role type.



Speaker Notes: Slide 9 Continued

For example, in the competency area of “basic microbiology” both nursing assistants and environmental services personnel would be expected to describe the different types of microorganisms, the concept of antimicrobial resistance and the impact on healthcare-associated infections.

However, while nursing assistants would be required to demonstrate proper handling technique of lab specimens, environmental services personnel would not. It is important that organizations review the specific roles, job descriptions, resources and needs at the organizational level to determine the specific infection prevention competencies that would be required for each.



Speaker Notes: Slide 10

Now let's discuss the audience for competency-based training. As adult learners, healthcare personnel have very different educational needs and motivations to learn. In addition to those adult learner needs, it is also important to recognize the diversity of the healthcare personnel workforce.

Within our healthcare organizations, healthcare personnel represent multiple roles and disciplines. There are many different cultural backgrounds and age groups represented. Additionally, healthcare personnel may have different levels of education and literacy. When designing the training program, consideration should be given to these factors in terms of how learning needs are assessed and training is provided and evaluated.



Speaker Notes: Slide 11

Now that we have discussed the drivers of infection prevention training and the core competencies, we need to discuss some basic principles of adult learning to understand how to create training that will be effective.

A key element with competency assessment and training involves focusing on practical knowledge and making it relevant to the learner. Adult learners prefer a focus on what they need to know rather than on extraneous facts.



Speaker Notes: Slide 11 Continued

They also, come with current knowledge and experiences, so it will be essential to capitalize on that and relate the training to past experiences. In addition, adult learners may lack confidence in their abilities and may be reluctant to demonstrate skills in front of peers because of fear of failure or ridicule. It is important to create a safe learning environment by providing continual reinforcement coupled with permission to try and to make mistakes.



Speaker Notes: Slide 12

- It has been suggested that, learners remember 10% of what is READ, 20% of what is HEARD, 30% of what is SEEN, 50% what is HEARD and SEEN
- 80% of what is HEARD, SEEN and DONE. So, consider multiple methods to convey the same message.



Speaker Notes: Slide 13

There are four main components of competency-based training, 1) assessing the educational needs of the learners, 2) developing the instructional design and 3) delivery of training, 4) assessing competence of healthcare personnel.

Assessing the educational needs is a key step to understanding what the priorities for training should be. Instructional design is about creating objectives, content and a learning environment that is suitable for the learners. And assessing competence is how you validate the skills, knowledge and attitude of the learners, in this case, healthcare personnel.



Speaker Notes: Slide 14

In order to understand what the education and training needs are, it is important to assess the needs of the targeted learner group. Needs assessments or gap analysis can help trainers and educators to prioritize educational needs and be proactive in how they develop content. There are various methods we can use to identify education and training needs of healthcare personnel, and these include both assessing the factors in the environment in which they work and also assessing the individuals themselves.

Hospitals are regulated by state, federal and accrediting agencies to conduct trainings for specific healthcare related practices.



Speaker Notes: Slide 14 Continued

For example the Joint Commission has long required that hospitals provide training for all healthcare personnel that manage central venous catheters, and this training must be provided at hire and annually.

At an organizational level, training for certain topics is often included in orientation then again annually. Training needs may exist due to new products or policies. For example, if a unit implements a new urinary collection device, healthcare personnel that are responsible for the urinary assessment and management of those patients would need to be properly trained. Another driver at the organizational level would be areas of risk.



Speaker Notes: Slide 14 Continued

Hospitals conduct quality improvement studies, like root cause analysis, annual infection control risk assessments and gap analysis, and based on the outcomes of those analyses, new or additional training may be indicated to target areas of risk. Infection prevention process and outcome data can also indicate need.

The CDC's Targeted Assessment for Prevention (TAP) Strategy is one way hospitals can review HAI improvement opportunities at a unit level and then target their training, auditing and feedback. For example, the CAUTI TAP report may show a unit with significantly greater number of infections than other units. This would trigger a focused review of practices on that unit.



Speaker Notes: Slide 14 Continued

Individuals should also be assessed for their own personal learning needs. Self assessments are one way to understand the knowledge, skills and attitudes of a learner. As we have already discussed, the diverse roles of healthcare personnel require that an infection prevention training program be tailored to meet the competency needs of those different roles.



Speaker Notes: Slide 15

When you are ready to begin designing your training program, you will need to identify the competencies that will be the focus of the training. As we have already discussed, different healthcare personnel roles require a specific set of competencies. Your target audience will determine the competencies you will train on.

Next, you will want to define clear learning objectives for the training program. Learning objectives describe the expected outcomes of the learners and can be categorized by the type of expected behavior. Knowledge or cognitive, skill or psychomotor, or feelings (affective) are three common types of behavior we would hope to influence with infection prevention training.



Speaker Notes: Slide 15 Continued

For example, when conducting central line maintenance training for nurses, a learning objective could be “at the end of the training, the learner will demonstrate how to change a central line dressing using proper sterile technique.” This would indicate the skill of performing a proper dressing change is the focus of the education and desired outcome of the learner. Objectives can also help to determine the instructional method. For instance, objectives that focus on skills, as in the example we just discussed, would be appropriate for a simulation skills lab or hands on environment like the bedside. When focusing on knowledge-based objectives, lecture or e-learning methods may be more suitable.



Speaker Notes: Slide 15 Continued

When designing the training program, consideration should be given to the most appropriate type of teaching method that will help learners meet the stated objectives. Finally, when designing the actual content for the training, it should be based on the most current evidence available and be in alignment with the policies and procedures within your organization.



Speaker Notes: Slide 16

Adult learning theory tells us that adult learners want to be engaged in the learning process, so the delivery of the content is critically important. To foster an educational environment that is conducive to learning, the educator must set the expectation at the start of the training that all participants, learners and educator will show mutual respect for one another's thoughts, questions and actions.

Engaging participants in active learning is a critically important aspect, promoting understanding and retention of content. Strategies that promote active learning should be integrated through a competency-based training for healthcare personnel.



Speaker Notes: Slide 16 Continued

Active learning strategies to consider include the following:

- Discussion groups that allow learners to share thoughts and experiences with infection prevention practices and learn from the peer to peer interactions.
- Using infection prevention case studies is a way to promote critical thinking and problem solving.
- And role playing is an active learning strategy that engages learners in demonstrating the skills and knowledge in a controlled and safe environment.



Speaker Notes: Slide 16 Continued

Finally, attention should also be paid to the physical environment. Depending on the teaching method and the desired level of interaction of the learners, seating arrangements and positioning of teaching materials should be done in a way to promote engagement, comfort, sense of privacy, and to reduce distractions.



Speaker Notes: Slide 17

The final component of the competency-based training process that we will discuss is assessing the competence of healthcare personnel. Competency assessment is an ongoing process of initial education, maintenance of knowledge and skills, evaluation and improvement as needed. Miller's Pyramid of Clinical Competence provides a framework to guide assessments of competence for healthcare personnel.

The primary level is "Knowing"- did the learner gain a basic level of knowledge of infection prevention principles? Simple pre- and posttests may be a useful way to measure basic knowledge. For example, a simple multiple choice test can determine if a learner can identify the 5 moments for hand hygiene.



Speaker Notes: Slide 17 Continued

The next level is “Knows how” - does the learner know how to apply the new knowledge? As we just discussed, questions related to case studies can test learner’s knowledge and promote critical thinking of application of new skills and knowledge. A case study about CAUTI prevention could determine if a learner understands when a patient meets the indications for a urinary catheter or if a urinary catheter alternative should be used.

The next level “Shows” - looks at if the learner is able to demonstrate the skill? Simulation is a way to provide a controlled environment in which learners can demonstrate application of infection prevention practices.



Speaker Notes: Slide 17 Continued

The final level is “Performs,” does the healthcare personnel independently perform the skill in practice? This can be assessed by observing healthcare personnel during direct patient care or if they do not provide direct patient care, during their assigned work duties. Typically, this highest level of competency is assessed by someone designated as an expert in the skill, sometimes a manager or a designated preceptor.



Speaker Notes: Slide 18

It is important to choose valid and reliable tools for competency assessment. You may design and test your own, or use an existing tool. As part of the [CDC's TAP Strategy](#), the CDC provides toolkits for CAUTI, *Clostridioides difficile* infection and CLABSI that include examples of competency training and assessment tools including hand hygiene and gloving, urinary catheter insertion and maintenance, environmental cleaning and personal protective equipment use. The World Health Organization also provides a comprehensive hand [hygiene training kit](#) including assessment of practice.



Speaker Notes: Slide 19

In summary, in this module we discussed the importance of infection prevention competency-based training for healthcare personnel, adult learning principles and the diverse nature of the healthcare personnel learners and the different components of competency-based training, including conducting a needs assessment, proper program design, delivery, and competence assessment.



Speaker Notes: Slide 20

No notes.



Speaker Notes: Slide 21

No notes.



Speaker Notes: Slide 22

No notes.

