

# Roadmap for the **Novice** **Infection Preventionist**

Tasks, knowledge, skills, abilities, and resources to take an infection preventionist from day 1 on the job through passing the Certification in Infection Prevention and Control (CIC) exam.



**APIC<sup>®</sup>**

Association for Professionals in  
Infection Control and Epidemiology

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## About APIC

APIC’s mission is to create a safer world through prevention of infection. The association’s more than 15,000 members direct infection prevention programs that save lives and improve the bottom line for hospitals and other healthcare facilities. APIC advances its mission through patient safety, implementation science, competencies and certification, advocacy, and data standardization.

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# Table of Contents

What is the Novice Roadmap?.....	4
Acknowledgements .....	5
Roadmap Tasks.....	6
Professional Development .....	8
Identification of Infectious Disease Processes .....	10
Surveillance and Epidemiologic Investigation.....	11
Preventing/Controlling the Transmission of Infectious Agents .....	15
Employee/Occupational Health.....	22
Management and Communication (Leadership).....	24
Education and Research .....	27
Environment of Care.....	29
Cleaning, Sterilization, Disinfection, Asepsis.....	31
Roadmap Tasks.....	32
Stage 1: Days 1 - 60.....	34
Stage 2: Days 61 - 120.....	40
Stage 3: Days 121 - End of Year 1.....	47
Stage 4: Beginning of Year 2 - Passing the CIC Exam.....	52

# What is the Novice Roadmap?

The Novice Roadmap provides a general structure for your time on the job, from day 1 until you pass the CIC exam. It provides a list of job-specific knowledge, skills, and professional development goals, and even helps you create your personal library of infection prevention-related resources. However, the way you prioritize proceeding through the roadmap will vary from facility to facility and program to program. It will also depend on your background, level of experience, and resources available to you within your infection prevention program.

## What does each stage cover?

- **Stage 1:** Your first two months on the job, a hectic time when you must learn the basics of infection prevention while also learning what surveillance is important in your facility and how to report what you find.
- **Stage 2:** In days 61- 120, you will continue to report what you observe, but should also connect with more people in your facility and expand your knowledge base.
- **Stage 3:** This stage runs from the end of the first four months to the end of the first year. By this point, you've learned infection prevention basics and can start to serve as your facility's source of infection prevention leadership and information.
- **Stage 4:** Stretches from after the first year until you've passed the CIC exam. We haven't included a specific end time for this stage because each person is a little different. You may find you are ready to pass the CIC exam after three years on the job or you may not be ready until after four or five years. There is no right or wrong time frame.

## How do I use the Novice Roadmap?

Each stage builds on information you mastered in the previous stage. Thus, someone brand new to the job looks at all entries related to Stage 1. If you've been on the job for six months, then you should technically be in Stage 3. However, you need to have mastered all the skills and knowledge listed in Stages 1 and 2 before doing so.

## Should I have completed each stage during the suggested time allotted? Is it bad if I haven't finished by that time?

The dates are just a rough guide to when you should have done something or learned something. However, these aren't absolute deadlines. For example, some people may take longer than 60 days to get through Stage 1.

## Do I have to get all the items listed in the Resources area?

We picked the items in the Resources area because they are well-known, highly respected information sources that all infection preventionists should have at their disposal. But although we've highlighted many free resources, we've also included some things that have an expense. (We've indicated when an item isn't free by putting a \$ next to it.)

Before you buy the resource, check around. It's possible that your facility (or maybe someone in your local APIC chapter) might have the resource and you can borrow it.

## If I follow the Roadmap, will I pass the CIC exam?

Although we made sure that all the competencies listed in the CBIC Content Outline are found somewhere on the Roadmap, following the Roadmap is not a guarantee you will pass the CIC exam. However, doing so will increase your

chances of success on the job and will improve the likelihood that you will pass the exam.

**What about the Professional Development area? That's not on the CIC exam. Can I ignore all those tasks?**

The Novice Roadmap does more than just prepare you to take the CIC exam. It also helps you develop as a professional, which will include tasks like networking with important people in your facility and developing your "soft skills," such as leadership. As such, we recommend strongly that you complete the Professional Development tasks, too.

**Is there anything else I need to know about the Roadmap?**

**A few things:**

1. The Roadmap is a living document, which means the version you see right now may not be the Roadmap in a month. As technology, diseases, and other changes impact the lives of infection preventionists, APIC will update the Roadmap to keep pace and inform you when these changes occur (via APIC's weekly E-News and updates to our website).
2. When you see lists (like lists of healthcare-associated infections or lists of people you should know), please understand that those lists are not exhaustive. They are a good start, but you will probably find that you need to adjust them for your facility.
3. Let us know what you think! Is it useful? Is there something new to add? Any and all feedback is welcome! Just email us at [education@apic.org](mailto:education@apic.org).

## Acknowledgements

**The Association of Professionals in Infection Control and Epidemiology acknowledges the valuable contributions of each of the following individuals:**

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# Roadmap Tasks

**Broken Down by  
CBIC Content  
Outline Area**

On the pages that follow, we've broken down the Novice Roadmap into topics that align with the eight areas in the CBIC Content Outline (plus Professional Development). No task appears in multiple places.

Looking at the Roadmap this way lets you see how you will progress in mastering various skills and knowledge in your novice years as an infection preventionist.

#### Some key acronyms:

- **IP** – Infection Preventionist
- **CDC** – Centers for Disease Control and Prevention
- **CBIC** – Certification Board of Infection Control and Epidemiology
- **CIC** – Certification in Infection Prevention and Control
- **HAI** – Healthcare-Associated Infection
- **NHSN** – National Healthcare Safety Network

# Professional Development

Stage 1: Days 1 - 60	Stage 2: Days 61 - 120	Stage 3: Days 121- End of Year 1	Stage 4: Beginning of year 2 - Passing the CIC Exam
<b>Become familiar with APIC:</b> <ul style="list-style-type: none"> <li>Join local APIC chapter</li> <li>Browse APIC website</li> <li>Complete your APIC member profile</li> <li>Find a mentor (This can be done through your local chapter or through apic.org)</li> </ul>	<b>Become familiar with outside expert resources:</b> <ul style="list-style-type: none"> <li>APIC (national and local chapter)</li> <li>State &amp; local health department</li> <li>CDC</li> </ul>	<b>Network with other IPs to discuss common concerns and solutions</b>	<b>Volunteer in local chapter</b>
<b>Subscribe to APIC IP Talk &amp; other lists, as appropriate</b>	<b>Start watching APIC monthly webinars</b>	<b>Take EPI® 101 and APIC's online class, "Microbiology 101 for Infection Preventionists"</b>	<b>Take EPI®102</b>
<b>Introduce yourself to facility personnel with whom you will interact:</b> <ul style="list-style-type: none"> <li>Lab/microbiologist</li> <li>Employee health</li> <li>Infectious disease physicians</li> </ul>	<b>Introduce yourself to facility personnel with whom you will interact:</b> <ul style="list-style-type: none"> <li>Environmental services</li> <li>Emergency preparedness</li> <li>Pharmacy</li> <li>Nursing leadership</li> <li>Surgery leadership</li> <li>Safety officer</li> <li>Central services</li> <li>Quality management</li> <li>Medical affairs</li> <li>Facility maintenance and construction</li> <li>Risk management</li> <li>Patient safety</li> <li>Laundry services</li> <li>Materials management</li> </ul>	<b>Introduce yourself to facility personnel with whom you will interact (based on your setting) within unique populations/services:</b> <ul style="list-style-type: none"> <li>Ambulatory surgery centers</li> <li>Ambulatory clinics</li> <li>Dialysis centers</li> <li>Long-term care facilities</li> <li>Pediatrics</li> <li>Pain management clinics</li> <li>Nursery</li> <li>Critical care</li> <li>Immunosuppressed</li> <li>Labor and delivery</li> <li>Anesthesia</li> <li>Behavioral health</li> <li>Emergency department</li> <li>Rehabilitation</li> <li>Home health</li> <li>Wound centers</li> </ul>	<b>Shadow in areas of unique population or in areas in which you are unfamiliar</b>



Stage 1: Days 1 - 60	Stage 2: Days 61 - 120	Stage 3: Days 121- End of Year 1	Stage 4: Beginning of year 2 - Passing the CIC Exam
<b>Assess your IT [information technology] needs:</b> <ul style="list-style-type: none"> <li>What software programs do you have/need?</li> <li>What training do you need for those programs?</li> <li>What access/passwords do you need?</li> <li>Learn your facility's electronic medical records system</li> </ul>	<b>Continue training:</b> <ul style="list-style-type: none"> <li>Learn how to present your data (e.g., using PowerPoint to make basic tables, graphs)</li> </ul>	<b>Reassess IT needs identified in first 120 days and address any newly identified needs</b>	
	<b>Develop your skills:</b> <ul style="list-style-type: none"> <li>Time management</li> </ul>	<b>Develop your skills:</b> <ul style="list-style-type: none"> <li>Leadership methods</li> <li>Effective communication</li> <li>Change management</li> <li>Project management</li> <li>Influence</li> <li>Facilitation</li> <li>Presentation skills</li> <li>Basic statistics</li> <li>Managing people</li> </ul>	<b>Continue to develop your soft skills:</b> <ul style="list-style-type: none"> <li>Developing a business case for your program</li> <li>Leadership methods</li> <li>Performance improvement science</li> </ul>
		<b>Create a personalized development plan (e.g., set goals, development and maintenance of competency)</b>	<b>Prepare for the CIC® examination:</b> <ul style="list-style-type: none"> <li>Apply for Competency Advancement Award (CAA) grant or state sponsored scholarship opportunities (if available)</li> <li>Review the CBIC Candidate Handbook</li> <li>Take APIC's online certification review class</li> <li>Study <b>APIC Text</b></li> <li>Connect with chapter study group (if one exists)</li> </ul>

#### Suggested resources for Professional Development:

- APIC Text (hard copy/online) \$
- The Infection Preventionist Guide to Long-Term Care (if work in LTC) \$
- APIC/JCR Infection Prevention and Control Workbook \$
- Certification Study Guide, current edition \$
- CMS Survey Work sheet
- State Hospital Licensing Rules (if applicable)

# Identification of Infectious Disease Processes

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Learn infectious disease processes:</b></p> <ul style="list-style-type: none"> <li>▪ Describe how to interpret diagnostic/ laboratory reports</li> <li>▪ Know the following terms associated with the infectious disease process: <ul style="list-style-type: none"> <li>♦ Define colonization, infection, and contamination</li> <li>♦ Geographic distribution</li> <li>♦ Reservoirs</li> <li>♦ Incubation periods</li> <li>♦ Periods of communicability</li> <li>♦ Modes of transmission</li> <li>♦ Signs and symptoms</li> <li>♦ Susceptibility</li> </ul> </li> </ul>	<p><b>Understand the basics characteristics of microbiology/virology:</b></p> <ul style="list-style-type: none"> <li>▪ Bacteria</li> <li>▪ Fungi</li> <li>▪ Parasites</li> <li>▪ Viruses</li> </ul> <p><b>Differentiate normal flora versus pathogenic flora by site:</b></p> <ul style="list-style-type: none"> <li>▪ Respiratory tract</li> <li>▪ Genitourinary tract</li> <li>▪ Gastrointestinal tract</li> <li>▪ Skin, eye, ear</li> <li>▪ Bone and joints</li> <li>▪ Blood</li> <li>▪ Central nervous system</li> </ul>	<p><b>Determine methods of antimicrobial susceptibility testing at your facility (e.g., minimum inhibitory concentration versus disc diffusion)</b></p> <ul style="list-style-type: none"> <li>▪ Differentiate among prophylactic, empiric, and therapeutic uses of antimicrobials</li> </ul>	<p><b>Recognize limitations and advantages of the types of tests used to diagnose infectious processes</b></p>
<p><b>Identify appropriate practices for specimen collection, transportation, handling, and storage (e.g., blood, wound, respiratory, and urine specimens)</b></p>	<p><b>Identify appropriate reasons for environmental culturing:</b></p> <ul style="list-style-type: none"> <li>▪ Culture of water and dialysate in hemodialysis units</li> <li>▪ Environmental cultures of potential sources during an outbreak investigation</li> </ul> <p><b>Identify inappropriate reasons for environmental culturing:</b></p> <ul style="list-style-type: none"> <li>▪ Random undirected microbiological culturing of air, water, and environmental surfaces</li> <li>▪ Culturing of staff not linked to an epidemiological investigation</li> </ul>		

## Suggested resources for Identification of Infectious Disease Processes:

- **APIC Text** (hard copy/online) \$
- **Ready Reference for Microbes**, current edition \$

- **The Infection Preventionist Guide to the Lab** \$
- **Control of Communicable Disease Manual** \$
- **Red Book** - American Academy of Pediatrics \$

# Surveillance and Epidemiologic Investigation

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Assess the surveillance plan for your facility:</b></p> <ul style="list-style-type: none"> <li>▪ What data does your facility already gather?</li> <li>▪ Where do you get your data?</li> <li>▪ What data do you need?</li> </ul>	<p><b>Based on surveillance information gained in first 60 days, develop/revise surveillance plan as needed:</b></p> <ul style="list-style-type: none"> <li>▪ Assess and define populations to be studied based on your specific facility findings</li> <li>▪ Determine regulatory requirements</li> <li>▪ Include significant organisms for your facility you learned from your lab results</li> <li>▪ Be specific about what data your facility gathers currently and what, if anything, needs to change</li> </ul>	<p><b>Continue to update your surveillance plan:</b></p> <ul style="list-style-type: none"> <li>▪ Evaluate it (and schedule to evaluate it every six months or sooner, e.g., when NHSN definitions change)</li> </ul>	
	<p><b>Identify surveillance used in unique populations/services, which may include:</b></p> <ul style="list-style-type: none"> <li>▪ Ambulatory surgery centers</li> <li>▪ Ambulatory clinics</li> <li>▪ Dialysis centers</li> <li>▪ Long-term care facilities</li> <li>▪ Pediatrics</li> <li>▪ Pain management clinics</li> <li>▪ Nursery</li> <li>▪ Critical care</li> <li>▪ Immunosuppressed</li> <li>▪ Labor and delivery</li> <li>▪ Surgery</li> <li>▪ Anesthesia</li> <li>▪ Behavioral health</li> <li>▪ Emergency department</li> <li>▪ Rehabilitation</li> </ul>	<p><b>Identify infection prevention strategies used in your facility's unique populations/services</b></p>	

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Review your facility's surveillance data for these HAIs:</b></p> <ul style="list-style-type: none"> <li>▪ Central line-associated bloodstream infections (CLABSI)</li> <li>▪ Catheter-associated urinary tract infections (CAUTI)</li> <li>▪ Surgical site infections (SSIs)</li> <li>▪ <i>Clostridium difficile</i></li> <li>▪ MRSA bacteremia</li> <li>▪ Ventilator-associated events (VAE)</li> <li>▪ Ventilator-associated pneumonia (pediatrics)</li> </ul>	<p><b>Generate your facility's surveillance data:</b></p> <ul style="list-style-type: none"> <li>▪ Determine numerators, denominators, and constants for calculations of rates for outcomes and processes</li> <li>▪ Organize and manage data in preparation for analysis</li> <li>▪ Determine the incidence or prevalence of infections</li> <li>▪ Calculate specific infection rates (e.g., provider-specific, unit-specific, device-specific, procedure-specific, standardized infection ratio [SIR])</li> <li>▪ Calculate risk stratified rates</li> <li>▪ Incorporate post-discharge surveillance findings into calculation of rates</li> </ul>	<p><b>Establish internal mechanisms to analyze and validate surveillance data:</b></p> <ul style="list-style-type: none"> <li>▪ Compare surveillance results to published data or other benchmarks.</li> </ul> <p><b>Develop and disseminate reports:</b></p> <ul style="list-style-type: none"> <li>▪ What is reported? (data, findings, recommendations)</li> <li>▪ How is it reported (written &amp; verbal)?</li> <li>▪ Who receives the reports?</li> <li>▪ How often?</li> </ul>	<p><b>Recognize the statistical significance of data:</b></p> <ul style="list-style-type: none"> <li>▪ Use basic statistical techniques to describe data (e.g., mean, standard deviation, rates, ratios, proportions)</li> <li>▪ Create and implement action plans based on your surveillance data</li> </ul>
<p><b>Determine your facility's process for identifying individuals with communicable diseases requiring transmission based precautions</b></p>	<p><b>Establish mechanisms for response to individuals with communicable diseases requiring follow-up (e.g., vaccination, antiviral/antimicrobial treatment)</b></p>		
<p><b>Identify epidemiologically significant infectious diseases that require immediate review and investigation (Check with state health department for complete list):</b></p> <ul style="list-style-type: none"> <li>▪ Tuberculosis</li> <li>▪ <i>Neisseria meningitidis</i></li> <li>▪ Influenza</li> <li>▪ Measles</li> <li>▪ Pertussis</li> <li>▪ Varicella</li> <li>▪ Mumps</li> </ul>	<p><b>Continue to learn about important infectious diseases, such as:</b></p> <ul style="list-style-type: none"> <li>▪ Viral Hepatitis</li> <li>▪ HIV/AIDS</li> <li>▪ MERS - Coronavirus</li> <li>▪ Norovirus</li> </ul>	<p>Create a notification system based on surveillance plan, including epidemiologically significant findings.</p>	

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Learn about multidrug-resistant organisms (MDRO) identification and infection prevention implications, for example:</p> <ul style="list-style-type: none"> <li>▪ Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA),</li> <li>▪ Vancomycin-resistant Enterococcus (VRE),</li> <li>▪ Multidrug-resistant Gram-negative rods (extended spectrum beta lactamase ESBL, carbapenem-resistant Enterobacteriaceae [CRE], <i>Acinetobacter baumannii</i>, etc.)</li> </ul>	<p>Continue to learn about MDRO identification and infection prevention implications:</p> <ul style="list-style-type: none"> <li>▪ Vancomycin intermediate <i>Staphylococcus aureus</i> (VISA)</li> <li>▪ Glycopeptide intermediate <i>Staphylococcus aureus</i> (GISA)</li> <li>▪ Vancomycin-resistant <i>Staphylococcus aureus</i> (VRSA)</li> <li>▪ Vancomycin-resistant <i>Staphylococcus epidermidis</i> (VRSE)</li> </ul>	<p>Be familiar with your facility's antibiogram</p> <p>Participate with facility antimicrobial stewardship program (if applicable)</p>	<p>Provide guidance on how to interpret and generate action following antibiogram review</p>
<p>Begin to learn the steps to investigate a cluster/outbreak:</p> <ul style="list-style-type: none"> <li>▪ Verify diagnosis of reported cases</li> </ul>	<p>Learn the steps to investigate clusters and outbreaks:</p> <ul style="list-style-type: none"> <li>▪ Collaborate with appropriate persons to establish the case definition, period of investigation, and case-finding methods</li> <li>▪ Define the problem using time, place, person, and risk factors</li> <li>▪ Confirm that an outbreak exists</li> <li>▪ Formulate hypothesis on source and mode of transmission</li> <li>▪ Implement and evaluate control measures, including ongoing surveillance</li> <li>▪ Summarize findings and present to key stakeholders</li> </ul>	<p>Learn the appropriate use of culturing during an outbreak:</p> <ul style="list-style-type: none"> <li>▪ Healthcare worker culturing</li> <li>▪ Collection of environmental samples that may be linked epidemiologically to outbreaks</li> </ul> <p>Understand the role of pulse field gel electrophoresis (PFGE) and whole human genome sequencing in outbreak investigation</p>	<p>Prepare reports for dissemination, evaluate strategies implemented for control</p>

Stage 1: Days 1 - 60	Stage 2: Days 61 - 120	Stage 3: Days 121- End of Year 1	Stage 4: Beginning of year 2 - Passing the CIC Exam
<b>Enroll in NHSN and complete the mandatory CDC NHSN training:</b> <ul style="list-style-type: none"> <li>▪ Apply for Secure Access Management Services, or SAMS</li> <li>▪ Use standardized definitions for the identification of outcomes and processes</li> </ul> <p><b>Note: It is important to enroll in NHSN early!</b></p>	<b>Review NHSN case studies:</b> <ul style="list-style-type: none"> <li>▪ Find NHSN event form</li> <li>▪ Submit data to NHSN</li> </ul> <p><b>Review NHSN newsletters</b></p>	<b>Attend or view NHSN training update:</b> <ul style="list-style-type: none"> <li>▪ Ensure quality of data submission using NHSN guidance tools</li> </ul>	<b>Learn NHSN advanced analysis/building custom reports</b>
<b>External public reporting of HAIs:</b> <ul style="list-style-type: none"> <li>▪ What Centers for Medicare &amp; Medicaid Services (CMS) HAI reporting is required for your facility?</li> <li>▪ What are your state HAI reporting requirements?</li> <li>▪ What is your facility's reporting process?</li> <li>▪ What are the reporting timelines/ due dates?</li> </ul>	<b>Access CMS Hospital Compare and state reporting website to locate your facility data:</b> <ul style="list-style-type: none"> <li>▪ Utilize these websites to compare your data to other facilities</li> </ul>	<b>Learn effective ways to communicate facility publicly reported HAI status to key stakeholders:</b> <ul style="list-style-type: none"> <li>▪ Senior leadership</li> <li>▪ Committee</li> <li>▪ Physicians</li> <li>▪ Frontline staff</li> </ul>	
<b>Meet local health department contact:</b> <ul style="list-style-type: none"> <li>▪ Call and introduce yourself and establish a relationship</li> <li>▪ Know the list of reportable diseases identified by your state health department and reporting requirements</li> </ul>	<b>Sign up for updates and alerts from CDC (e.g., Healthcare Advisory Network, or HAN, and Morbidity and Mortality Weekly Report, or MMWR) and your state/local health departments</b>		

**Suggested resources for Surveillance and Epidemiologic Investigation:**

- NHSN Patient Safety Manual
- **APIC Text** (hard copy/online) \$
- **The Infection Preventionist Guide to Long-Term Care** (if work in LTC) \$

- **Ready Reference for Microbes**, current edition \$
- *The Infection Preventionist Guide to the Lab* \$
- *Control of Communicable Disease Manual* \$
- *Red Book* – American Academy of Pediatrics \$
- CDC's "CRE Toolkit - Guidance for Control of Carbapenem-resistant Enterobacteriaceae"

# Preventing/Controlling the Transmission of Infectious Agents

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<b>Locate facility manuals/ procedures, including:</b> <ul style="list-style-type: none"> <li>▪ Infection prevention</li> <li>▪ Administrative</li> <li>▪ Nursing</li> <li>▪ Safety</li> </ul>	<b>Review infection prevention manual:</b> <ul style="list-style-type: none"> <li>▪ Develop schedule for reviewing/ revising</li> </ul>	<b>Develop evidence-based/informed infection prevention and control policies and procedures</b>	<b>Review, and become involved in development of, policies of other facility departments, as needed</b>
<b>Identify and define each of the components comprising the chain of infection:</b> <ul style="list-style-type: none"> <li>▪ Infectious agent</li> <li>▪ Reservoir</li> <li>▪ Portal of exit</li> <li>▪ Mode of transmission</li> <li>▪ Portal of entry</li> <li>▪ Susceptible host</li> </ul>	<b>Identify opportunities to break the chain between each component:</b> <ul style="list-style-type: none"> <li>▪ Personal protective equipment, or PPE</li> <li>▪ Vaccination of patients and healthcare workers</li> <li>▪ Hand hygiene</li> <li>▪ Sanitation</li> <li>▪ Disinfection and sterilization</li> <li>▪ Safe food handling</li> </ul>		
<b>Hand hygiene:</b> <ul style="list-style-type: none"> <li>▪ Read CDC guidelines and World Health Organization guidelines</li> <li>▪ Read your facility's policy for hand hygiene</li> <li>▪ Know when hand hygiene must occur</li> <li>▪ Determine if monitoring of hand hygiene compliance is done at your facility                             <ul style="list-style-type: none"> <li>♦ If so, how and by whom?</li> </ul> </li> <li>▪ Read policies for surgical hand scrub</li> <li>▪ Determine your state fire code for use of alcohol hand gel                             <ul style="list-style-type: none"> <li>♦ See National Fire Protection Association (NFPA) life safety codes</li> </ul> </li> </ul>	<b>Understand the different roles of hand hygiene products:</b> <ul style="list-style-type: none"> <li>▪ Soap and water</li> <li>▪ Antimicrobial soap and water</li> <li>▪ Alcohol hand hygiene products - gels, foams, etc.</li> <li>▪ Lotions and moisturizers</li> <li>▪ Products for surgical scrub</li> <li>▪ Learn the advantages and methods for brushless alcohol-based surgical hand scrubs</li> </ul>	<b>Describe justification for elimination of artificial nails in patient care areas</b>  <b>Develop a process for reporting hand hygiene monitoring compliance to stakeholders</b>	<b>Develop strategies to improve hand hygiene compliance:</b> <ul style="list-style-type: none"> <li>▪ Explore hand hygiene monitoring methods (manual versus electronic observations, hand hygiene product usage)</li> <li>▪ Recruitment of hand hygiene champions throughout facilities</li> <li>▪ Reward and recognition</li> </ul>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Review the Standard Precautions/ Transmission-Based Precautions policies and procedures for your facility:</p> <ul style="list-style-type: none"> <li>▪ Know when standard, contact, droplet, or airborne infection isolation (AII) precautions are used</li> <li>▪ Know when respiratory hygiene and cough etiquette are needed</li> <li>▪ Identify who is responsible and/ or has authority for initiating isolation of patients</li> <li>▪ Locate signage used to notify healthcare workers and visitors of precautions</li> <li>▪ Locate and become familiar with CDC's list of organisms and isolation requirements (in Isolation Guidelines)</li> </ul>	<p>Determine when and where personal protective equipment (PPE) should be worn and not worn within your facility</p> <p>Describe your facility's practical applications of isolation precautions related to:</p> <ul style="list-style-type: none"> <li>▪ Hand hygiene</li> <li>▪ Transporting isolation patients</li> <li>▪ Gloving</li> <li>▪ Gowns</li> <li>▪ Masks, N-95 particulate respirator, Powered Air Purifying Respirator (PAPR)</li> <li>▪ Eye protection, face shields</li> <li>▪ Patient care equipment and supplies</li> <li>▪ Handling of linen</li> <li>▪ Routine and terminal (discharge) cleaning</li> <li>▪ Requirements to discontinue isolation</li> <li>▪ Requirements for patient placement on Transmission-Based Precautions (cohorting, use of private rooms)</li> <li>▪ Identify airborne infection isolation (negative pressure) rooms in your facility: <ul style="list-style-type: none"> <li>♦ Understand the engineering controls for airborne infection isolation rooms</li> <li>♦ How is air handling of room monitored when in use? How frequently and who is responsible?</li> <li>♦ Know the appropriate length of time for clearance of organisms from air in room prior to placing next patient</li> </ul> </li> </ul>	<p>Monitor effectiveness of isolation precautions</p> <p>Determine process for isolation patients receiving therapeutic treatment and procedures</p>	<p>Communicate compliance with isolation precautions to key stakeholders (Infection Prevention &amp; Control Committee, departments, etc.)</p>



<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Locate and become familiar with your facility's tuberculosis (TB) control plan</b></p> <ul style="list-style-type: none"> <li>Determine what is done if a known or suspected case of TB is admitted to your facility</li> </ul>		<p>Perform annual TB risk assessment</p>	
<p><b>Intravascular device &amp; central line-associated bloodstream infection (CLABSI) prevention:</b></p> <ul style="list-style-type: none"> <li>Read the Society for Healthcare Epidemiology of America (SHEA) Compendium, APIC Elimination Guides, the CDC Healthcare Infection Control Practices Advisory Committee (HICPAC) guideline, Institute for Healthcare Improvement (IHI) bundles</li> </ul>	<p><b>Learn about CLABSI prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>Indications for central line use established</li> <li>Insertion bundle</li> <li>Maintenance bundle</li> <li>Scrub the hub</li> <li>Removal of devices ASAP</li> <li>Staff training</li> </ul>	<p><b>Monitor CLABSI prevention processes (e.g., bundle compliances)</b></p>	<p><b>Develop strategies to improve CLABSI prevention process compliance</b></p> <p><b>Explore CLABSI prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>State health departments</li> <li>Quality improvement organizations</li> <li>Hospital associations</li> </ul>
<p><b>Pneumonia prevention:</b></p> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide, HICPAC guidelines, IHI bundles</li> </ul>	<p><b>Learn about pneumonia prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>Head of the bed elevated</li> <li>Sedation vacations</li> <li>Weaning protocols</li> <li>Patient immunization</li> <li>Staff training</li> </ul>	<p><b>Monitor pneumonia prevention processes (e.g., bundle compliance)</b></p>	<p><b>Develop strategies to improve pneumonia prevention process compliance</b></p> <p><b>Explore pneumonia prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>State health departments</li> <li>Quality improvement organizations</li> <li>Hospital associations</li> </ul>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Catheter-associated urinary tract infection (CAUTI) prevention:</b></p> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide, HICPAC guideline, IHI bundles</li> </ul>	<p><b>Learn about CAUTI prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>Indications for use of indwelling urinary catheter established</li> <li>Insertion practices</li> <li>Maintenance of catheter</li> <li>Removal protocols</li> <li>Staff training</li> </ul>	<p><b>Monitor CAUTI prevention processes</b></p>	<p><b>Develop strategies to improve CAUTI prevention process compliance</b></p> <p><b>Explore CAUTI prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>State health departments</li> <li>Quality improvement organizations</li> <li>Hospital associations</li> </ul>
<p><b>Surgical site infection (SSI) prevention:</b></p> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guides, HICPAC guideline, Association of periOperative Registered Nurses (AORN) standards</li> </ul>	<p><b>Learn about SSI prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>Prophylactic antibiotics (appropriate agent, dose, re-dosing, timing)</li> <li>Bathing</li> <li>Glucose control</li> <li>Skin prep</li> <li>Oxygenation</li> <li>Temperature</li> <li>Staff training</li> </ul>	<p><b>Review the principles of asepsis in the operating room:</b></p> <ul style="list-style-type: none"> <li>Develop competence in assessing compliance with these principles during OR rounds</li> </ul> <p><b>Know environmental controls:</b></p> <ul style="list-style-type: none"> <li>Control of air quality, ventilation, and humidity</li> <li>Traffic control</li> <li>Surgical attire</li> <li>Housekeeping</li> <li>Storage of supplies</li> </ul>	<p><b>Develop strategies to improve SSI prevention process compliance</b></p> <p><b>Explore SSI prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>State health departments</li> <li>Quality improvement organizations</li> <li>Hospital associations</li> </ul>
<p><b><i>Clostridium difficile</i> (C. difficile):</b></p> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide</li> </ul> <p><b>Learn about:</b></p> <ul style="list-style-type: none"> <li>Transmission</li> <li>Risk factors</li> <li>Complications</li> <li>Role of environment</li> <li>Treatment options</li> </ul>	<p><b>Learn about C. difficile prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>Contact Precautions and PPE</li> <li>Use of soap and water for hand hygiene (no alcohol products)</li> <li>Cleaning/disinfection products used</li> <li>Staff training</li> </ul>	<p><b>Monitor Contact Precautions compliance</b></p> <p><b>Be familiar with your facility's antimicrobial stewardship program and your role with the team</b></p>	<p><b>Develop strategies to improve C. difficile prevention process compliance</b></p> <p><b>Explore C. difficile prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>State health departments</li> <li>Quality improvement organizations</li> <li>Hospital associations</li> </ul>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Learn about multidrug-resistant organisms (MDROs) and their implications:</b></p> <ul style="list-style-type: none"> <li>▪ Identification</li> <li>▪ Transmission</li> <li>▪ Risks</li> <li>▪ Complications</li> </ul> <p><b>Examples include:</b></p> <ul style="list-style-type: none"> <li>▪ Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA),</li> <li>▪ Vancomycin-resistant <i>Enterococcus</i> (VRE),</li> <li>▪ Multidrug-resistant Gram-negative rods (extended spectrum beta lactamase ESBL, carbapenem-resistant Enterobacteriaceae [CRE], <i>Acinetobacter baumannii</i>, etc.)</li> </ul>	<p><b>Learn about MDRO prevention activities at your facility:</b></p> <ul style="list-style-type: none"> <li>▪ Contact Precautions and PPE</li> <li>▪ Hand hygiene practices</li> <li>▪ Cleaning/disinfection products used</li> <li>▪ Staff training</li> <li>▪ Alert notification system                             <ul style="list-style-type: none"> <li>♦ Newly identified patients</li> <li>♦ Readmitted or transferred patients</li> </ul> </li> </ul>	<p><b>Monitor Contact Precautions compliance</b></p> <p><b>Be familiar with your facility's antibiogram</b></p> <p><b>Be familiar with your facility's antimicrobial stewardship program and your role with the team</b></p>	<p><b>Develop strategies to improve MDRO prevention process compliance</b></p> <p><b>Explore MDRO prevention collaboratives and consider participating. These collaboratives may be found in:</b></p> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul> <p><b>Provide guidance on how to interpret and generate action following antibiogram review</b></p>
<p><b>Learn about safe injection practices:</b></p> <ul style="list-style-type: none"> <li>▪ Review the online "One and Only Campaign" materials</li> </ul>	<p><b>Review safe injection practice policies for departments, especially nursing and anesthesia</b></p>	<p><b>Incorporate safe injection practices into your department rounding</b></p>	<p><b>Learn about outbreaks that have occurred in different settings as a result of breaks in infection prevention practices</b></p>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Find and review your facility's emergency response plan</p>	<p>Understand your role in your facility's emergency response plan:</p> <ul style="list-style-type: none"> <li>▪ Influx of patients (bioterrorism, emerging infectious diseases, syndromic surveillance)</li> </ul>	<p>Understand your role in community emergency response:</p> <ul style="list-style-type: none"> <li>▪ Contact your community's emergency response team</li> <li>▪ Collaborate with relevant groups and agencies in planning community/facility responses to biologic threats and disasters (e.g., anthrax, influenza, flooding)</li> </ul> <p>Learn about commonly recognized bioterrorism agents and how they are transmitted:</p> <ul style="list-style-type: none"> <li>▪ Anthrax</li> <li>▪ Plague</li> <li>▪ Tularemia</li> <li>▪ Q fever</li> <li>▪ Brucella</li> <li>▪ Smallpox</li> <li>▪ Botulism</li> </ul>	<p>Review/revise emergency preparedness plans</p> <p>Learn infection prevention practices to prevent transmission of bioterrorism agents:</p> <ul style="list-style-type: none"> <li>▪ Learn signs and symptoms of bioterrorism agents</li> </ul>
<p>Identify your facility's therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)</p>	<p>Learn about infection risks associated with your facility's therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)</p>	<p>Implement infection prevention and control strategies related to therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)</p>	
<p>Nutrition services:</p> <ul style="list-style-type: none"> <li>▪ Review policies for: <ul style="list-style-type: none"> <li>♦ Safe preparation (clean, separate, cook, chill)</li> <li>♦ Safe handling and food storage</li> <li>♦ Safe temperature zone</li> <li>♦ Sanitation of trays, utensils, equipment, and surfaces</li> <li>♦ Hand hygiene and glove use during food preparation</li> </ul> </li> </ul>	<p>Know microorganisms commonly involved in foodborne illnesses</p>	<p>Know steps involved in foodborne outbreak management</p>	

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Determine what infection prevention-specific products are in use and where (e.g., alcohol-based hand sanitizer, PPE, safety devices)</p>	<p>Determine non-infection prevention-specific products used in your facility that impact infection prevention (e.g., dressings, connectors, IV supplies)</p>	<p>Understand your facility's product process:</p> <ul style="list-style-type: none"> <li>What is your facility's procedure for introducing new products?</li> <li>Determine process for dealing with recalls (equipment, food, medication and supplies)</li> </ul>	<p>Participate in cost benefit assessment, efficacy studies, and product evaluation:</p> <ul style="list-style-type: none"> <li>Recommend changes in practice based on product trials</li> <li>Make recommendations, based on product's ability to be reprocessed (if applicable)</li> </ul>
		<p>Locate USP797 pharmacy regulations that pertain to infection control</p>	<p>Assess your pharmacy's compliance with USP797 regulations that pertain to infection control:</p> <ul style="list-style-type: none"> <li>Make recommendations based on your assessment</li> </ul>
<p><b>Suggested resources for Preventing/Controlling the Transmission of Infectious Agents:</b></p> <ul style="list-style-type: none"> <li><b>APIC Text</b> (hard copy/online) \$</li> <li><b>The Infection Preventionist Guide to Long-Term Care</b> (if work in LTC) \$</li> <li><b>Ready Reference for Microbes</b>, current edition \$</li> <li>APIC Infection Prevention Elimination Guides</li> <li>Compendium of Strategies to Prevent Healthcare Associated Infections in Acute Care Hospitals</li> <li><b>Control of Communicable Disease Manual</b> \$</li> <li><b>Red Book</b> – American Academy of Pediatrics \$</li> <li>CDC Guide to Infection Prevention in Outpatient Settings: Minimum Expectations for Safe Care</li> </ul>		<ul style="list-style-type: none"> <li>Institute for Healthcare Improvement (IHI) bundles</li> <li>AORN Preoperative Standards and Recommended Practices \$</li> <li>AAMI ST 79 – Steam Sterilization \$</li> <li>AAMI ST58 – Chemical Sterilization and High Level Disinfection \$</li> <li>APIC EVS topic web page</li> <li>Scientific Guidelines from APIC, CDC, or other credible sources</li> <li><b>Guidelines for Design and Construction of Hospitals and Outpatient Facilities</b> – The Facilities Guidelines Institute \$</li> <li>The CDC Healthcare Infection Control Practices Advisory Committee, or HICPAC, Guideline</li> </ul>	

# Employee/Occupational Health

Stage 1: Days 1 - 60	Stage 2: Days 61 - 120	Stage 3: Days 121- End of Year 1	Stage 4: Beginning of year 2 - Passing the CIC Exam
<p>Identify state licensing, regulatory, and facility requirements for healthcare worker immunizations:</p> <ul style="list-style-type: none"> <li>▪ MMR</li> <li>▪ Varicella</li> <li>▪ Hepatitis B</li> <li>▪ Influenza</li> <li>▪ Tdap</li> </ul>	<p>Collaborate with occupational health to determine current requirements for healthcare worker immunizations:</p> <ul style="list-style-type: none"> <li>▪ Describe how these immunization records can be queried in order to identify staff that may require post-exposure notification</li> </ul>	<p>Review and develop screening and immunizations programs to protect healthcare worker from new agents and exposures</p>	
<p>Know facility plan for healthcare worker communicable disease exposure:</p> <ul style="list-style-type: none"> <li>▪ Incubation periods</li> <li>▪ Mode of transmission</li> <li>▪ Periods of communicability</li> <li>▪ Signs and symptoms</li> </ul>	<p>Guide occupational health with healthcare worker follow-up of exposures to communicable diseases:</p> <ul style="list-style-type: none"> <li>▪ TB</li> <li>▪ <i>Neisseria meningitidis</i></li> <li>▪ Pertussis</li> </ul>	<p>Be familiar with how physicians, students, contract workers, patients and visitors are handled in your facility if there is a communicable disease exposure</p>	<p>Assist with providing guidance for counseling, testing, treatment, prophylaxis and work restrictions following communicable disease exposure</p>
<p>Identify current facility process for healthcare worker illness or sick leave</p>	<p>Confirm IP authority to require work restriction of healthcare worker in event of communicable disease transmission risk</p>	<p>Assist occupational health with analysis &amp; trending of illnesses of healthcare worker data</p>	
<p>Review Bloodborne Pathogen (BBP) Exposure Control Plan and the OSHA Rule</p> <ul style="list-style-type: none"> <li>▪ Learn about Hepatitis B, C, and HIV transmission</li> <li>▪ What is considered potentially infectious material?</li> <li>▪ Learn how Standard Precautions (Universal) are used to prevent contact with blood or other potentially infectious material</li> <li>▪ What training is available for staff? (Required by Occupational Safety and Health Administration, or OSHA)</li> </ul>	<p>Contribute to policy development on follow up related to bloodborne pathogen exposures:</p> <ul style="list-style-type: none"> <li>▪ First aid</li> <li>▪ Source Testing</li> <li>▪ Post-exposure prophylaxis (PEP)</li> </ul> <p>Determine engineering controls and personal protective equipment available at your facility to prevent exposure to bloodborne pathogens</p>	<p>Provide counseling, work restriction recommendations related to BBP exposure</p>	<p>Conduct annual review of facility BBP exposure control plan</p> <p>Assist with analysis &amp; trending of data from BBP exposure:</p> <ul style="list-style-type: none"> <li>▪ Prepare annual sharps safety risk assessment per Federal OSHA</li> </ul>

Stage 1: Days 1 - 60	Stage 2: Days 61 - 120	Stage 3: Days 121- End of Year 1	Stage 4: Beginning of year 2 - Passing the CIC Exam
<p>Determine type of testing performed to monitor staff for exposure to TB and development of TB disease</p> <ul style="list-style-type: none"> <li>▪ Annual PPD, blood assay testing</li> </ul>	<p>Utilize CDC recommendations to determine TB screening frequency of healthcare workers</p>	<p>Be familiar with respirator fit testing:</p> <ul style="list-style-type: none"> <li>▪ TB healthcare worker history screening</li> <li>▪ N-95 particulate respirator versus PAPR</li> </ul>	
<p>Describe what annual healthcare worker influenza vaccination campaign is in place</p> <ul style="list-style-type: none"> <li>▪ Determine CMS and state healthcare worker influenza vaccination reporting requirements: <ul style="list-style-type: none"> <li>♦ Where will you get this data?</li> <li>♦ How do you report this in NHSN?</li> </ul> </li> </ul>	<p>Participate in annual planning of healthcare worker influenza vaccination campaign, based on updated information from current year's MMWR and Vaccine Information Sheet (VIS)</p> <ul style="list-style-type: none"> <li>▪ Evaluate types of currently-available vaccines to meet needs of campaign: <ul style="list-style-type: none"> <li>♦ Example: Three-strain versus four-strain vaccine; egg-free; thimerosal-free; nasal vs. IM vs. intradermal</li> </ul> </li> </ul>	<p>Analyze seasonal influenza coverage for facility by profession (e.g., medical staff, doctors, nurses):</p> <ul style="list-style-type: none"> <li>▪ Research and implement methods for improving facility compliance rate</li> </ul>	

### Suggested resources for Employee Health:

- **APIC Text** (hard copy/online) \$
- **The Infection Preventionist Guide to Long-Term Care** (if work in LTC) \$
- Epidemiology and Prevention of Vaccine-Preventable Diseases (Pink Book)
- NHSN Healthcare Personnel Safety Component Protocol
- OSHA Bloodborne Pathogens Standard and Q&A
- **Control of Communicable Disease Manual** \$
- OSHA Respiratory Protection Standard
- Clinicians' Post Exposure Prophylaxis Hotline (PEpline) or call: (888) 448-4911



# Management and Communication (Leadership)

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Learn your role and the scope of your Infection Prevention Program:</b></p> <ul style="list-style-type: none"> <li>▪ Locate and review your job description</li> <li>▪ Locate and review your duties</li> <li>▪ Locate and review the minutes from your facility's Infection Prevention Committee meetings</li> <li>▪ Review infection prevention authority statement</li> <li>▪ Describe your role in developing the infection prevention program's budget</li> </ul>	<p><b>Answer these questions:</b></p> <ul style="list-style-type: none"> <li>▪ What is your facility's chain of command?</li> <li>▪ What is the structure of your Infection Prevention/Quality Committee? When does it meet?</li> </ul>	<p><b>Learn your leadership's priorities and engage them</b></p> <p><b>Participate in your facility's budgeting process, as needed:</b></p> <ul style="list-style-type: none"> <li>▪ Recommend specific equipment, personnel, and resources for the Infection Prevention and Control Program</li> </ul>	<p><b>Begin to formulate actions steps to making your infection prevention business case</b></p>
<p><b>Determine if your facility has an infection prevention plan or program:</b></p> <ul style="list-style-type: none"> <li>▪ If one exists, learn the elements and scope of your facility's plan</li> <li>▪ If one does not, then create one, based on the risk assessment in Stage 2</li> </ul>	<p><b>Determine if an annual infection prevention risk assessment was performed (The risk assessment documents and prioritizes infection risks for your facility)</b></p> <ul style="list-style-type: none"> <li>▪ If so, then make sure your infection prevention program is aligned to your facility's risks</li> <li>▪ If not, conduct risk assessment: <ul style="list-style-type: none"> <li>♦ Use a multidisciplinary team to conduct the infection prevention risk assessment</li> <li>♦ What population does your facility serve?</li> <li>♦ What procedures do you do?</li> <li>♦ What community endemic infections are identified?</li> </ul> </li> <li>♦ Use previous facility surveillance and process monitoring data that is available</li> <li>♦ Know your high-risk patients and what special prevention measures they require</li> </ul>	<p><b>Develop and review/revise your infection control program plan:</b></p> <ul style="list-style-type: none"> <li>▪ Mission and vision statement</li> <li>▪ Goals</li> <li>▪ Measurable objectives</li> <li>▪ Action plans</li> <li>▪ Put date on your calendar to re-visit the risk assessment at least every six months</li> </ul>	<p><b>Conduct risk assessment and develop infection prevention plan for the following year</b></p> <p><b>Recommend changes in practice based on current evidence, clinical outcomes, and financial implications</b></p>



<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Learn what committees on which you serve (besides the Infection Prevention Committee), to what other groups you are responsible for reporting, and frequency of attendance</p> <p><b>Committees may include:</b></p> <ul style="list-style-type: none"> <li>▪ Product Review</li> <li>▪ Sharps Safety</li> <li>▪ Safety</li> <li>▪ Patient Safety</li> <li>▪ Antimicrobial Stewardship</li> <li>▪ Quality/Performance Improvement</li> <li>▪ Emergency Response</li> <li>▪ Regulatory</li> <li>▪ Employee Health</li> <li>▪ Construction and/or Facility Maintenance</li> <li>▪ Nursing Councils</li> </ul> <p><b>Groups may include:</b></p> <ul style="list-style-type: none"> <li>▪ Department</li> <li>▪ Medical Staff</li> <li>▪ Board of Trustees</li> </ul>	<p>Become familiar with the regulatory bodies that govern your organization and their requirements (e.g., Joint Commission, Accreditation Association for Ambulatory Health Care [AAAHC], Det Norske Veritas [DNV], Centers for Medicare &amp; Medicaid Services [CMS], Occupational Safety and Health Administration [OSHA], Environmental Protection Agency [EPA], Food and Drug Administration [FDA], Department of Transportation [DOT], National Fire Protection Association [NFPA], National Institute for Occupational Safety and Health [NIOSH], and state health department)</p> <ul style="list-style-type: none"> <li>▪ Determine state and/or local HAI coordinator</li> </ul>	<p>Determine your role during an accreditation survey or health department/CMS inspection</p> <p>Use CMS infection control worksheet to assess readiness</p>	

## Management and Communication (Leadership), continued

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
	<p>Become familiar with tools used for quality/performance improvement/patient safety:</p> <ul style="list-style-type: none"> <li>▪ Root cause analysis</li> <li>▪ Fishbone diagram</li> <li>▪ Pareto chart</li> <li>▪ Flow chart</li> <li>▪ Strengths-Weaknesses-Opportunities-Threats (SWOT)</li> <li>▪ Gap analysis</li> </ul>	<p>Collaborate with risk management/quality management in the identification and review of adverse and sentinel events:</p> <ul style="list-style-type: none"> <li>▪ Look for information on patient safety organizations</li> <li>▪ Participate in root cause analysis (as applicable)</li> </ul>	
<p><b>Suggested resources for Management and Communication:</b></p> <ul style="list-style-type: none"> <li>▪ <b>APIC Text</b> (hard copy/online) \$</li> <li>▪ <b>The Infection Preventionist Guide to Long-Term Care</b> (if work in LTC) \$</li> <li>▪ <b>APIC/JCR Infection Prevention and Control Workbook</b> \$</li> <li>▪ The Joint Commission Infection Prevention Standards Chapter</li> </ul>			

# Education and Research

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p><b>Determine your role in new hire orientation:</b></p> <ul style="list-style-type: none"> <li>▪ How is orientation delivered? (Live, computer-based, video, etc.)</li> <li>▪ If live, what is the orientation schedule?</li> <li>▪ How are healthcare workers trained for bloodborne pathogens prior to exposure to blood and body fluids in their work setting? (requirement of OSHA)</li> <li>▪ How are healthcare workers trained on tuberculosis?</li> <li>▪ Do you teach new residents? Do you teach new physicians?</li> </ul>	<p><b>Determine your role in annual infection prevention education. To do this, answer the following:</b></p> <ul style="list-style-type: none"> <li>▪ What infection prevention annual education is currently required at your facility?</li> <li>▪ How is the annual education delivered? (Live, computer-based, video, etc.)</li> <li>▪ If live, what is the schedule?</li> <li>▪ How are licensed independent practitioners (LIPs) and residents given annual education?</li> </ul>	<p>Update orientation and annual education</p>	
	<p>Identify your facility's patient, family, and visitor IPC education process</p>	<p>Facilitate effective education of patients, families, and others regarding prevention and control measures</p>	<p>Develop and implement strategies that engage the patient, family, and others in activities aimed at preventing infection</p>
	<p><b>Learn how to do a literature search:</b></p> <ul style="list-style-type: none"> <li>▪ Learn how to use PubMed</li> </ul>	<p><b>Learn how to critically review literature</b></p> <p><b>Facilitate incorporation of applicable research findings into practice</b></p>	<p><b>Recognize the appropriate epidemiologic study to investigate a problem:</b></p> <ul style="list-style-type: none"> <li>▪ Case control, cohort studies</li> </ul>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
	<p><b>Learn basics of adult education</b></p> <ul style="list-style-type: none"> <li>▪ What makes adults different from other learners?</li> <li>▪ Learn how best to develop materials for adults: <ul style="list-style-type: none"> <li>♦ What training needs does the staff have?</li> <li>♦ Develop learning objectives based on those needs</li> <li>♦ Create lesson plans based on the objectives</li> </ul> </li> </ul>	<p><b>Develop/deliver educational materials for in-services:</b></p> <ul style="list-style-type: none"> <li>▪ What important research needs to be implemented by staff?</li> <li>▪ Reactive (e.g., new pandemic erupts and you need to train the staff)</li> <li>▪ Proactive (e.g., basics of infectious disease, transmission, prevention; hand hygiene)</li> <li>▪ Provide immediate feedback, education, and/or training when lapses in practice are observed</li> </ul>	<p><b>Develop evaluation plan to assess success/failure of your training (e.g., observation of practices, process measures)</b></p>
<p><b>Suggested resources for Education and Resources</b></p> <ul style="list-style-type: none"> <li>▪ <b>APIC Text</b> (hard copy/online) \$</li> </ul>		<ul style="list-style-type: none"> <li>▪ <b><i>The Infection Preventionist Guide to Long-Term Care</i></b> (if work in LTC) \$</li> </ul>	

# Environment of Care

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Familiarize yourself with housekeeping (i.e., environmental services [EVS]) policies. For example:</p> <ul style="list-style-type: none"> <li>What are your facility's policies for environmental cleaning?</li> </ul>	<p>Learn facility policies for:</p> <ul style="list-style-type: none"> <li>Pest control practices (e.g., bed bugs)</li> <li>Waste management: Handling, storage, and transport of biohazardous waste</li> <li>Cleaning in special circumstances and populations (e.g., surgery, NICU)</li> </ul>	<p>Collaborate with EVS to review and approve policies</p>	<p>Recommend revisions to EVS policies as needed, based on new and emerging diseases and threats</p>
<p>Familiarize yourself with housekeeping/EVS personnel and practices. For example:</p> <ul style="list-style-type: none"> <li>How are staff trained?</li> <li>What personal protective equipment is used during cleaning?</li> <li>How would a blood spill be managed?</li> </ul>	<p>Determine how cleaning effectiveness is monitored</p>	<p>Collaborate with EVS to report cleaning effectiveness to key stakeholders (e.g., infection control committee, frontline staff, administration)</p>	
<p>Familiarize yourself with the products your housekeeping/EVS personnel are using.</p> <p>Learn about characteristics of different classes of disinfectants (e.g., quaternary ammonium compounds, phenolics, bleach, hydrogen peroxide)</p>	<p>Identify products your housekeeping/EVS personnel are using in unique circumstances and populations. For example:</p> <ul style="list-style-type: none"> <li>Tuberculocidal</li> <li>Sporicidal (<i>C. diff</i>)</li> <li>What is used in surgery and special care areas (e.g., NICU)?</li> </ul>	<p>Collaborate with EVS on exploring/ selecting new cleaning products</p> <ul style="list-style-type: none"> <li>What is your facility's procedure for introducing new products?</li> <li>Determine process for dealing with recalls</li> </ul> <p>Collaborate with EVS on exploring/ selecting new cleaning technologies</p>	<p>Participate in cost benefit assessment, efficacy studies, and product evaluation:</p> <ul style="list-style-type: none"> <li>Recommend changes in practice based on product trials</li> </ul>
<p>Facilities maintenance, renovation and construction:</p> <ul style="list-style-type: none"> <li>What are your facility's infection prevention related policies on maintenance, renovation, and construction?</li> </ul>	<p>Learn basics of construction phases as they impact infection prevention:</p> <ul style="list-style-type: none"> <li>Design</li> <li>Renovation</li> <li>Demolition</li> <li>Maintenance</li> <li>Repair</li> </ul>	<p>Locate your facility's infection prevention construction policy and infection control risk assessment tool (ICRA)</p> <p>Participate in pre-construction/ renovation meetings to provide guidance for infection control risks</p>	<p>Develop contingency plan for potential utility outages, based on the project risk assessment</p>

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<p>Learn basics of and monitoring requirements for your facility's water system:</p> <ul style="list-style-type: none"> <li>▪ <i>Legionella</i> prevention</li> <li>▪ Dialysis systems</li> </ul>	<p>Identify water-related features or decorations in your facility (e.g., fountains, fish tanks) and how they impact infection prevention</p> <ul style="list-style-type: none"> <li>▪ What is the cleaning schedule?</li> <li>▪ What products are used in the cleaning?</li> <li>▪ Are there state recommendations for environmental sampling? If so, how frequently?</li> </ul>	<p>Review and/or develop policies related to your facility's water management system (e.g., <i>Legionella</i> prevention, dialysis systems, fountains and fish tanks)</p>	<p>Develop contingency plan for water outage</p>
<p>Learn basics of, and monitoring requirements for, heating, ventilation and air conditioning (HVAC) systems:</p> <ul style="list-style-type: none"> <li>▪ Positive and negative air differentials</li> <li>▪ Air exchange requirements for specific areas</li> <li>▪ Levels of air filtration (e.g., HEPA filtration)</li> <li>▪ Parameters for humidity</li> </ul>	<p>Learn your facility's HVAC-related policies and practices</p> <ul style="list-style-type: none"> <li>▪ How is it monitored?</li> <li>▪ What is the monitoring schedule?</li> <li>▪ What is done in the event of an abnormal finding?</li> <li>▪ Determine your authority to take action in the event of an abnormal finding</li> </ul>		<p>Develop contingency plan for potential HVAC outages</p>

#### Suggested Resources for Environment of Care:

- APIC Text (hard copy/online) \$
- Control of Communicable Diseases Manual
- AORN Preoperative Standards and Recommended Practices \$
- APIC EVS topic web page
- Guidelines for Design and Construction of Hospitals and Outpatient Facilities – The Facilities Guidelines Institute \$
- Certification Study Guide, current edition \$
- Compendium of Strategies to Prevent Healthcare Associated Infections in Acute Care Hospitals

# Cleaning, Sterilization, Disinfection, Asepsis

<b>Stage 1:</b> <b>Days 1 - 60</b>	<b>Stage 2:</b> <b>Days 61 - 120</b>	<b>Stage 3:</b> <b>Days 121- End of Year 1</b>	<b>Stage 4:</b> <b>Beginning of year 2 - Passing the CIC Exam</b>
<b>Disinfection and sterilization of equipment:</b> <ul style="list-style-type: none"> <li>▪ Learn the Spaulding classification of disinfection and sterilization</li> <li>▪ Differentiate between cleaning, disinfection, high-level disinfection and sterilization</li> </ul>	<b>Learn critical steps of cleaning, high-level disinfection, and sterilization. For example:</b> <ul style="list-style-type: none"> <li>▪ Event-related sterility</li> <li>▪ Chemical and biological indicators for different sterilization process</li> <li>▪ Testing for effective levels of high-level disinfectant solutions; and</li> <li>▪ Documentation/monitoring requirements</li> <li>▪ Recall steps for failed instrument processing and actions to take to mitigate risks</li> </ul>	<b>Determine if your facility participates in reuse of single-use devices:</b> <ul style="list-style-type: none"> <li>▪ Determine appropriate practices for reprocessing single-use devices</li> </ul>	<b>Learn the special disinfection/sterilization requirements for resilient pathogens. For example:</b> <ul style="list-style-type: none"> <li>▪ Creutzfeldt-Jakob Disease (CJD)</li> <li>▪ Human Papillomavirus (HPV)</li> </ul> <b>After observation of high-level disinfection and sterilization processes at your facility, determine if practices meet guidelines and update policies and procedures as needed</b>
		<b>Assess products under evaluation for their ability to be reprocessed:</b> <ul style="list-style-type: none"> <li>▪ Manufacturers guidelines</li> <li>▪ End users</li> <li>▪ Product team</li> </ul>	
	<b>Learn the importance of decontamination of instruments/ scopes</b>	<b>Learn your facility's processes for disinfection and sterilization:</b> <ul style="list-style-type: none"> <li>▪ Observe processing of patient care equipment in specialty areas: <ul style="list-style-type: none"> <li>♦ Endoscopy/Bronchoscopy</li> <li>♦ Central Services</li> <li>♦ Respiratory therapy</li> <li>♦ Surgical/ Procedural areas and Anesthesia</li> <li>♦ Dialysis</li> <li>♦ Angiography</li> </ul> </li> </ul>	
<b>Suggested Resources for CSDA:</b> <ul style="list-style-type: none"> <li>▪ APIC Text (hard copy/online) \$</li> <li>▪ Control of Communicable Diseases Manual</li> <li>▪ AAMI ST 79 - Steam Sterilization \$</li> </ul>		<ul style="list-style-type: none"> <li>▪ AAMI ST58 - Chemical Sterilization and High Level Disinfection \$</li> <li>▪ APIC Scientific Guidelines</li> <li>▪ CDC and other scientific publications and guidelines</li> <li>▪ Certification Study Guide, current edition \$</li> </ul>	

# Roadmap Tasks

## Broken Down by Stage



**On the pages that follow,  
we've broken down the  
Novice Roadmap by stages:**

**To use the Roadmap by  
stages, you will need the  
following key:**

**Stage 1: Days 1-60**

**Stage 2: Days 61-120**

**Stage 3: Days 121 – end of year 1**

**Stage 4: Beginning of year 2 – passing the CIC exam**

Looking at the Roadmap this way gives you a more detailed view of what you will do and learn in each stage. It also gives you an idea of the resources you will need for each stage.

**Some key acronyms:**

**IP** – Infection Preventionist

**CDC** – Centers for Disease Control and Prevention

**CBIC** – Certification Board of Infection Control and Epidemiology

**CIC** – Certification in Infection Prevention and Control

**HAI** – Healthcare-Associated Infection

**NHSN** – National Healthcare Safety Network

**Tracks:**

**PD** – Professional Development

**ID** – Identification of Infectious Disease Processes

**SUR** – Surveillance and Epidemiologic Investigation

**IA** – Preventing/Controlling the Transmission of Infectious Agents

**E/OH** – Employee/Occupational Health

**MCL** – Management and Communication (Leadership)

**E/R** – Education and Research

**EC** – Environment of Care

**CSDA** – Cleaning, Sterilization, Disinfection, Asepsis

# Stage 1: Days 1 - 60

Task/skill	Track
<b>Become familiar with APIC:</b> <ul style="list-style-type: none"> <li>Join local APIC chapter</li> <li>Browse APIC website</li> <li>Complete your APIC member profile</li> <li>Find a mentor</li> </ul>	PD
<b>Subscribe to APIC IP Talk &amp; other lists as appropriate</b>	PD
<b>Introduce yourself to facility personnel with whom you will interact:</b> <ul style="list-style-type: none"> <li>Lab/microbiologist</li> <li>Employee health</li> <li>Infectious disease physicians</li> </ul>	PD
<b>Assess your IT [information technology] needs:</b> <ul style="list-style-type: none"> <li>What software programs do you have/need?</li> <li>What training do you need for those programs?</li> <li>What access/passwords do you need?</li> <li>Learn your facility's electronic medical records system</li> </ul>	PD
<b>Learn infectious disease processes:</b> <ul style="list-style-type: none"> <li>Describe how to interpret diagnostic/laboratory reports</li> <li>Know the following terms and information associated with each infectious disease process:               <ul style="list-style-type: none"> <li>Define colonization, infection, and contamination</li> <li>Geographic distribution</li> <li>Reservoirs</li> <li>Incubation periods</li> <li>Periods of communicability</li> <li>Modes of transmission</li> <li>Signs and symptoms</li> <li>Susceptibility</li> </ul> </li> </ul>	ID
<b>Identify appropriate practices for specimen collection, transportation, handling and storage</b> (E.g., blood, wound, respiratory and urine specimens)	ID
<b>Assess the surveillance plan for your facility:</b> <ul style="list-style-type: none"> <li>What data does your facility already gather?</li> <li>Where do you get your data?</li> <li>What data do you need?</li> </ul>	SUR
<b>Review your facility's surveillance data for these HAIs:</b> <ul style="list-style-type: none"> <li>Central line-associated bloodstream infections (CLABSI)</li> <li>Catheter-associated urinary tract infections (CAUTI)</li> <li>Surgical site infections (SSIs)</li> <li><i>Clostridium difficile</i></li> <li>MRSA bacteremia</li> <li>Ventilator-associated events (VAE)</li> <li>Ventilator-associated pneumonia (pediatrics)</li> </ul>	SUR
<b>Determine your facility's process for identifying individuals with communicable diseases requiring transmission based precautions</b>	SUR

Task/skill	Track
<b>Identify epidemiologically significant infectious diseases that require immediate review and investigation</b> (Check with state health department for complete list): <ul style="list-style-type: none"> <li>Tuberculosis</li> <li><i>Neisseria meningitidis</i></li> <li>Influenza</li> <li>Measles</li> <li>Pertussis</li> <li>Varicella</li> <li>Mumps</li> </ul>	SUR
<b>Learn about multidrug-resistant organisms (MDRO) identification and infection prevention implications, for example:</b> <ul style="list-style-type: none"> <li>Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA),</li> <li>Vancomycin-resistant Enterococcus (VRE),</li> <li>Multidrug-resistant Gram-negative rods (extended spectrum beta lactamase ESBL, carbapenem-resistant Enterobacteriaceae [CRE], <i>Acinetobacter baumannii</i>, etc.)</li> </ul>	SUR
<b>Begin to learn the steps to investigate a cluster/outbreak:</b> <ul style="list-style-type: none"> <li>Verify diagnosis of reported cases</li> </ul>	SUR
<b>Enroll in NHSN and complete the mandatory CDC NHSN training:</b> <ul style="list-style-type: none"> <li>Apply for Secure Access Management Services, or SAMS</li> <li>Use standardized definitions for the identification of outcomes and processes</li> </ul> <p>Note: It is important to enroll in NHSN early!</p>	SUR
<b>External public reporting of HAIs:</b> <ul style="list-style-type: none"> <li>What Centers for Medicare &amp; Medicaid Services (CMS) HAI reporting is required for your facility?</li> <li>What are your state HAI reporting requirements?</li> <li>What is your facility's reporting process?</li> <li>What are the reporting timelines/due dates?</li> </ul>	SUR
<b>Meet local health department contact:</b> <ul style="list-style-type: none"> <li>Call and introduce yourself and establish a relationship</li> <li>Know the list of reportable diseases identified by your state health department and reporting requirements</li> </ul>	SUR
<b>Locate facility manuals/procedures, including:</b> <ul style="list-style-type: none"> <li>Infection prevention</li> <li>Administrative</li> <li>Nursing</li> <li>Safety</li> </ul>	IA
<b>Identify and define each of the components comprising the chain of infection:</b> <ul style="list-style-type: none"> <li>Infectious agent</li> <li>Reservoir</li> <li>Portal of exit</li> <li>Mode of transmission</li> <li>Portal of entry</li> <li>Susceptible host</li> </ul>	IA

Task/skill	Track
<b>Hand hygiene:</b> <ul style="list-style-type: none"> <li>Read CDC guidelines and World Health Organization guidelines</li> <li>Read your facility's policy for hand hygiene</li> <li>Know when hand hygiene must occur</li> <li>Determine if monitoring of hand hygiene compliance is done at your facility. If so, how and by whom?</li> </ul>	IA
<ul style="list-style-type: none"> <li>Read policies for surgical hand scrub</li> <li>Determine your state fire code for use of alcohol hand gel                             <ul style="list-style-type: none"> <li>See National Fire Protection Association (NFPA) life safety codes</li> </ul> </li> </ul>	
<b>Review the Standard Precautions/Transmission-Based Precautions policies and procedures for your facility:</b> <ul style="list-style-type: none"> <li>Know when standard, contact, droplet, or airborne infection isolation (AII) precautions are used</li> <li>Know when respiratory hygiene and cough etiquette are needed</li> <li>Identify who is responsible and/or has authority for initiating isolation of patients</li> <li>Locate signage used to notify healthcare workers and visitors of precautions</li> <li>Locate and become familiar with CDC's list of organisms and isolation requirements</li> </ul>	IA
<b>Locate and become familiar with your facility's TB control plan</b> <ul style="list-style-type: none"> <li>Determine what is done if a known or suspected case of tuberculosis (TB) is admitted to your facility</li> </ul>	IA
<b>Intravascular device &amp; central line-associated bloodstream infection (CLABSI) prevention:</b> <ul style="list-style-type: none"> <li>Read the Society for Healthcare Epidemiology of America (SHEA) Compendium, APIC Elimination Guides, the CDC Healthcare Infection Control Practices Advisory Committee (HICPAC) guideline, Institute for Healthcare Improvement (IHI) bundles</li> </ul>	IA
<b>Pneumonia prevention:</b> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide, HICPAC guidelines, IHI bundles</li> </ul>	IA
<b>Catheter-associated urinary tract infection (CAUTI) prevention:</b> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide, HICPAC guideline, IHI bundles</li> </ul>	IA
<b>Surgical site infection (SSI) prevention:</b> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guides, HICPAC guideline, Association of periOperative Registered Nurses (AORN) standards</li> </ul>	IA
<b><i>Clostridium difficile</i> (C. difficile):</b> <ul style="list-style-type: none"> <li>Read SHEA Compendium, APIC Elimination Guide</li> </ul>	IA
<b>Learn about:</b> <ul style="list-style-type: none"> <li>Transmission</li> <li>Risk factors</li> </ul>	<ul style="list-style-type: none"> <li>Complications</li> <li>Role of environment</li> <li>Treatment options</li> </ul>

Task/skill	Track
<b>Learn about multidrug-resistant organisms (MDROs) and their implications:</b> <ul style="list-style-type: none"> <li>Identification</li> <li>Transmission</li> <li>Risks</li> <li>Complications</li> </ul> <b>Examples include:</b> <ul style="list-style-type: none"> <li>Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA)</li> <li>Vancomycin-resistant Enterococcus (VRE)</li> <li>Multidrug-resistant Gram-negative rods (extended spectrum beta lactamase ESBL, carbapenem-resistant Enterobacteriaceae [CRE], <i>Acinetobacter baumannii</i>, etc.)</li> </ul>	IA
<b>Learn about safe injection practices:</b> <ul style="list-style-type: none"> <li>Review the online “One and Only Campaign” materials</li> </ul>	IA
<b>Find and review your facility’s emergency response plan</b>	IA
<b>Identify your facility’s therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)</b>	IA
<b>Nutrition services:</b> <ul style="list-style-type: none"> <li>Review policies for: <ul style="list-style-type: none"> <li>Safe preparation (clean, separate, cook, chill)</li> <li>Safe handling and food storage</li> <li>Safe temperature zone</li> <li>Sanitation of trays, utensils, equipment, and surfaces</li> <li>Hand hygiene and glove use during food preparation</li> </ul> </li> </ul>	IA
<b>Determine what infection prevention-specific products are in use and where (e.g., alcohol-based hand sanitizer, PPE, safety devices)</b>	IA
<b>Identify state licensing, regulatory, and facility requirements for healthcare worker immunizations:</b> <ul style="list-style-type: none"> <li>MMR</li> <li>Varicella</li> <li>Hepatitis B</li> <li>Influenza</li> <li>Tdap</li> </ul>	E/OH
<b>Know facility plan for healthcare worker communicable disease exposure:</b> <ul style="list-style-type: none"> <li>Incubation periods</li> <li>Mode of transmission</li> <li>Periods of communicability</li> <li>Signs and symptoms</li> </ul>	E/OH
<b>Identify current facility process for healthcare worker illness or sick leave</b>	E/OH
<b>Review Bloodborne Pathogen (BBP) Exposure Control Plan and the OSHA Rule:</b> <ul style="list-style-type: none"> <li>Learn about Hepatitis B, C, and HIV transmission</li> <li>What is considered potentially infectious material?</li> <li>Learn how Standard Precautions (Universal) are used to prevent contact with blood or other potentially infectious material</li> <li>What training is available for staff? (Required by OSHA)</li> </ul>	E/OH

Task/skill	Track
<b>Determine type of testing performed to monitor staff for exposure to TB and development of TB disease</b> <ul style="list-style-type: none"> <li>▪ Annual PPD, blood assay testing</li> </ul>	E/OH
<b>Describe what annual employee influenza vaccination campaign is in place</b> <ul style="list-style-type: none"> <li>▪ Determine CMS and state healthcare personnel influenza vaccination reporting requirements: <ul style="list-style-type: none"> <li>♦ Where will you get this data?</li> <li>♦ How do you report this in NHSN</li> </ul> </li> </ul>	E/OH
<b>Learn your role and the scope of your Infection Prevention Program:</b> <ul style="list-style-type: none"> <li>▪ Locate and review your job description</li> <li>▪ Locate and review your duties</li> <li>▪ Locate and review the minutes from your facility's Infection Prevention Committee meetings</li> <li>▪ Review infection prevention authority statement</li> <li>▪ Describe your role in developing the infection prevention program's budget</li> </ul>	MCL
<b>Determine if your facility has an infection prevention plan or program:</b> <ul style="list-style-type: none"> <li>▪ If one exists, learn the elements and scope of your facility's plan</li> <li>▪ If one does not, then create one, based on the risk assessment in Stage 2</li> </ul>	MCL
<b>Learn what committees on which you serve (besides the Infection Prevention Committee), to what other groups you are responsible for reporting, and frequency of attendance</b> <div> <div> <b>Committees may include:</b> <ul style="list-style-type: none"> <li>▪ Product Review</li> <li>▪ Sharps Safety</li> <li>▪ Safety</li> <li>▪ Patient Safety</li> <li>▪ Antimicrobial Stewardship</li> <li>▪ Quality/Performance Improvement</li> <li>▪ Emergency Response</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>▪ Regulatory</li> <li>▪ Employee Health</li> <li>▪ Construction and/or Facility Maintenance</li> <li>▪ Nursing Councils</li> </ul> <b>Groups may include:</b> <ul style="list-style-type: none"> <li>▪ Department</li> <li>▪ Medical Staff</li> <li>▪ Board of Trustees</li> </ul> </div> </div>	MCL
<b>Determine your role in new hire orientation:</b> <ul style="list-style-type: none"> <li>▪ How is orientation delivered? (live, computer-based, video, etc.)</li> <li>▪ If live, what is the orientation schedule?</li> <li>▪ How are employees trained for bloodborne pathogens prior to exposure to blood and body fluids in their work setting? (requirement of OSHA)</li> <li>▪ How are employees trained on tuberculosis?</li> <li>▪ Do you teach new residents? Do you teach new physicians?</li> </ul>	E/R

Task/skill	Track
<p>Familiarize yourself with housekeeping (i.e., environmental Services [EVS]) policies. For example:</p> <ul style="list-style-type: none"> <li>What are your facility's policies for environmental cleaning?</li> </ul>	EC
<p>Familiarize yourself with housekeeping (i.e., environmental Services [EVS]) personnel and practices. For example:</p> <ul style="list-style-type: none"> <li>How are staff trained?</li> <li>What personal protective equipment is used during cleaning?</li> <li>How would a blood spill be managed?</li> </ul>	EC
<p><b>Familiarize yourself with the products your housekeeping (i.e., environmental Services [EVS]) personnel are using</b></p> <p><b>Learn about characteristics of different classes of disinfectants (e.g., quaternary ammonium compounds, phenolics, bleach, hydrogen peroxide)</b></p>	EC
<p><b>Facilities maintenance, renovation, and construction:</b></p> <ul style="list-style-type: none"> <li>What are your facility's infection prevention related policies on maintenance, renovation, and construction?</li> </ul>	EC
<p><b>Learn basics of, and monitoring requirements for, your facility's water system:</b></p> <ul style="list-style-type: none"> <li>Legionella prevention</li> <li>Dialysis systems</li> </ul>	EC
<p><b>Learn basics of, and monitoring requirements for, heating, ventilation and air conditioning (HVAC) systems:</b></p> <ul style="list-style-type: none"> <li>Positive and negative air differentials</li> <li>Air exchange requirements for specific areas</li> <li>Levels of air filtration (e.g., HEPA filtration)</li> <li>Parameters for humidity</li> </ul>	EC
<p><b>Disinfection and sterilization of equipment:</b></p> <ul style="list-style-type: none"> <li>Learn the Spaulding classification of disinfection and sterilization</li> <li>Differentiate between cleaning, disinfection, high-level disinfection and sterilization</li> </ul>	CSDA

# Stage 2: Days 61 - 120

Task/skill	Track
<b>Become familiar with outside expert resources:</b> <ul style="list-style-type: none"> <li>▪ APIC (national and local chapter)</li> <li>▪ State &amp; local health department</li> <li>▪ CDC</li> </ul>	PD
<b>Start watching APIC monthly webinars</b>	PD
<b>Introduce yourself to facility personnel with whom you will interact:</b> <ul style="list-style-type: none"> <li>▪ Environmental services</li> <li>▪ Emergency preparedness</li> <li>▪ Pharmacy</li> <li>▪ Nursing leadership</li> <li>▪ Surgery leadership</li> <li>▪ Safety officer</li> <li>▪ Central services</li> <li>▪ Quality management</li> <li>▪ Medical affairs</li> <li>▪ Facility maintenance and construction</li> <li>▪ Risk management</li> <li>▪ Patient safety</li> <li>▪ Laundry services</li> <li>▪ Materials management</li> </ul>	PD
<b>Continue your IT training</b> <ul style="list-style-type: none"> <li>▪ Learn how to present your data (e.g., using PowerPoint to make basic tables, graphs)</li> </ul>	PD
<b>Develop your skills:</b> <ul style="list-style-type: none"> <li>▪ Time management</li> </ul>	PD
<b>Understand the basics characteristics of microbiology/virology:</b> <ul style="list-style-type: none"> <li>▪ Bacteria</li> <li>▪ Fungi</li> <li>▪ Parasites</li> <li>▪ Viruses</li> </ul>	ID
<b>Differentiate normal flora versus pathogenic flora by site:</b> <ul style="list-style-type: none"> <li>▪ Respiratory tract</li> <li>▪ Genitourinary tract</li> <li>▪ Gastrointestinal tract</li> <li>▪ Skin, eye, ear</li> <li>▪ Bone and Joints</li> <li>▪ Blood</li> <li>▪ Central nervous system</li> </ul>	
<b>Identify appropriate reasons for environmental culturing:</b> <ul style="list-style-type: none"> <li>▪ Culture of water and dialysate in hemodialysis units</li> <li>▪ Environmental cultures of potential sources during an outbreak investigation</li> </ul>	ID
<b>Identify inappropriate reasons for environmental culturing:</b> <ul style="list-style-type: none"> <li>▪ Random undirected microbiological culturing of air, water, and environmental surfaces</li> <li>▪ Culturing of staff not linked to an epidemiological investigation</li> </ul>	



Task/skill	Track
<p><b>Based on surveillance information gained in first 60 days, develop/revise surveillance plan as needed:</b></p> <ul style="list-style-type: none"> <li>▪ Assess and define populations to be studied based on your specific facility findings</li> <li>▪ Determine regulatory requirements</li> <li>▪ Include significant organisms for your facility you learned from your lab results</li> <li>▪ Be specific about what data your facility gathers currently and what, if anything, needs to change</li> </ul>	EI
<p><b>Identify surveillance used in unique populations/services, which may include:</b></p> <ul style="list-style-type: none"> <li>▪ Ambulatory surgery centers</li> <li>▪ Ambulatory clinics</li> <li>▪ Dialysis centers</li> <li>▪ Long-term care facilities</li> <li>▪ Pediatrics</li> <li>▪ Pain management clinics</li> <li>▪ Nursery</li> <li>▪ Critical care</li> <li>▪ Immunosuppressed</li> <li>▪ Labor and delivery</li> <li>▪ Surgery</li> <li>▪ Anesthesia</li> <li>▪ Behavioral health</li> <li>▪ Emergency department</li> <li>▪ Rehabilitation</li> </ul>	EI
<p><b>Generate your facility's surveillance data:</b></p> <ul style="list-style-type: none"> <li>▪ Determine numerators, denominators, and constants for calculations of rates for outcomes and processes</li> <li>▪ Organize and manage data in preparation for analysis</li> <li>▪ Determine the incidence or prevalence of infections</li> <li>▪ Calculate specific infection rates (e.g., provider-specific, unit-specific, device-specific, procedure-specific, standardized infection ratio, or SIR)</li> <li>▪ Calculate risk stratified rates</li> <li>▪ Incorporate post-discharge surveillance findings into calculation of rates</li> </ul>	EI
<p><b>Learn the steps to investigate clusters and outbreaks:</b></p> <ul style="list-style-type: none"> <li>▪ Collaborate with appropriate persons to establish the case definition, period of investigation, and case-finding methods</li> <li>▪ Define the problem using time, place, person, and risk factors</li> <li>▪ Confirm that an outbreak exists</li> <li>▪ Formulate hypothesis on source and mode of transmission</li> <li>▪ Implement and evaluate control measures, including ongoing surveillance</li> <li>▪ Summarize findings and present to key stakeholders</li> </ul>	EI
<p><b>Establish mechanisms for response to individuals with communicable diseases requiring follow-up</b> (e.g., vaccination, antiviral/antimicrobial treatment)</p>	EI
<p><b>Continue to learn about important infectious diseases, such as:</b></p> <ul style="list-style-type: none"> <li>▪ Viral Hepatitis</li> <li>▪ HIV/AIDS</li> <li>▪ MERS - Coronavirus</li> <li>▪ Norovirus</li> </ul>	EI

Task/skill	Track
<b>Continue to learn about MDRO identification and infection prevention implications:</b> <ul style="list-style-type: none"> <li>Vancomycin intermediate <i>Staphylococcus aureus</i> (VISA)</li> <li>Glycopeptide intermediate <i>Staphylococcus aureus</i> (GISA)</li> <li>Vancomycin-resistant <i>Staphylococcus aureus</i> (VRSA)</li> <li>Vancomycin-resistant <i>Staphylococcus epidermidis</i> (VRSE)</li> </ul>	EI
<b>Review NHSN case studies:</b> <ul style="list-style-type: none"> <li>Find NHSN event form</li> <li>Submit data to NHSN</li> <li>Review NHSN newsletters</li> </ul>	EI
<b>Access CMS Hospital Compare and state reporting website to locate your facility data:</b> <ul style="list-style-type: none"> <li>Utilize these websites to compare your data to other facilities</li> </ul>	EI
<b>Sign up for updates and alerts from CDC (e.g., Healthcare Advisory Network, or HAN, and <i>Morbidity and Mortality Weekly Report</i>, or MMWR) and your state/local health departments</b>	EI
<b>Identify opportunities to break the chain between each component:</b> <ul style="list-style-type: none"> <li>Personal Protective Equipment, or PPE</li> <li>Vaccination of patients and healthcare workers</li> <li>Hand hygiene</li> <li>Sanitation</li> <li>Disinfection and sterilization</li> <li>Safe food handling</li> </ul>	IA
<b>Review infection prevention manual:</b> <ul style="list-style-type: none"> <li>Develop schedule for reviewing/revising</li> </ul>	IA
<b>Understand the different roles of hand hygiene products:</b> <ul style="list-style-type: none"> <li>Soap and water</li> <li>Antimicrobial soap and water</li> <li>Alcohol hand hygiene products - gels, foams etc.</li> <li>Lotions and moisturizers</li> <li>Products for surgical scrub</li> <li>Learn the advantages and methods for brushless alcohol-based surgical hand scrubs</li> </ul>	IA
<b>Determine when and where personal protective equipment (PPE) should be worn and not worn within your facility</b>	IA
<b>Describe your facility's practical applications of isolation precautions related to:</b> <ul style="list-style-type: none"> <li>Hand hygiene</li> <li>Transporting isolation patients</li> <li>Gloving</li> <li>Gowns</li> <li>Masks, N-95 particulate respirator, Powered Air Purifying Respirator (PAPR)</li> <li>Eye protection, face shields</li> <li>Patient care equipment and supplies</li> <li>Handling of linen</li> <li>Routine and terminal (discharge) cleaning</li> <li>Requirements to discontinue isolation</li> <li>Requirements for patient placement on Transmission-Based Precautions (cohorting, use of private rooms)</li> <li>Identify airborne infection isolation (negative pressure) rooms in your facility: <ul style="list-style-type: none"> <li>Understand the engineering controls for airborne infection isolation rooms</li> <li>How is air handling of room monitored when in use? How frequently and who is responsible?</li> <li>Know the appropriate length of time for clearance of organisms from air in room prior to placing next patient</li> </ul> </li> </ul>	

Task/skill	Track
<b>Learn about CLABSI prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Indications for central line use established</li> <li>Insertion bundle</li> <li>Maintenance bundle</li> <li>Scrub the hub</li> <li>Removal of devices ASAP</li> <li>Staff training</li> </ul>	IA
<b>Learn about pneumonia prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Head of the bed elevated</li> <li>Sedation vacations</li> <li>Weaning protocols</li> <li>Patient immunization</li> <li>Staff training</li> </ul>	IA
<b>Learn about CAUTI prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Indications for use of indwelling urinary catheter established</li> <li>Insertion practices</li> <li>Maintenance of catheter</li> <li>Removal protocols</li> <li>Staff training</li> </ul>	IA
<b>Learn about SSI prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Prophylactic antibiotics: appropriate agent, dose, re-dosing, timing</li> <li>Bathing</li> <li>Glucose control</li> <li>Skin prep</li> <li>Oxygenation</li> <li>Temperature</li> <li>Staff training</li> </ul>	IA
<b>Learn about <i>C. difficile</i> prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Contact Precautions and PPE</li> <li>Use of soap and water for hand hygiene (no alcohol products)</li> <li>Cleaning/disinfection products used</li> <li>Staff training</li> </ul>	IA
<b>Learn about MDRO prevention activities at your facility:</b> <ul style="list-style-type: none"> <li>Contact Precautions and PPE</li> <li>Hand hygiene practices</li> <li>Cleaning/disinfection products used</li> <li>Staff training</li> <li>Alert notification system                             <ul style="list-style-type: none"> <li>Newly identified patients</li> <li>Readmitted or transferred patients</li> </ul> </li> </ul>	IA
<b>Review safe injection practice policies for departments, especially nursing and anesthesia</b>	IA
<b>Understand your role in your facility's emergency response plan:</b> <ul style="list-style-type: none"> <li>Influx of patients (bioterrorism, emerging infectious diseases)</li> </ul>	IA
<b>Learn about infection risks associated with your facility's therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)</b>	IA

Task/skill	Track
Know microorganisms commonly involved in foodborne illnesses	IA
Determine non-infection prevention-specific products used in your facility that impact infection prevention (e.g., dressings, connectors, IV supplies)	IA
Collaborate with occupational health to determine current requirements for healthcare worker immunizations <ul style="list-style-type: none"> <li>Describe how these immunization records can be queried in order to identify staff that may require post-exposure notification</li> </ul>	E/OH
Guide occupational health with healthcare worker follow-up of exposures to communicable diseases: <ul style="list-style-type: none"> <li>TB</li> <li><i>Neisseria meningitidis</i></li> <li>Pertussis</li> </ul>	E/OH
Confirm IP authority to require work restriction of healthcare worker in event of communicable disease transmission risk	E/OH
Contribute to policy development on follow up related to bloodborne pathogen exposures: <ul style="list-style-type: none"> <li>First aid</li> <li>Source testing</li> <li>Post-exposure prophylaxis (PEP)</li> </ul>	E/OH
Determine engineering controls and personal protective equipment available at your facility to prevent exposure to bloodborne pathogens	
Utilize CDC recommendations to determine TB screening frequency of healthcare workers	E/OH
Participate in annual planning of healthcare worker influenza vaccination campaign, based on updated information from current year's MMWR and Vaccine Information Sheet (VIS) <ul style="list-style-type: none"> <li>Evaluate types of currently available vaccines to meet needs of campaign: <ul style="list-style-type: none"> <li>Example: Three-strain versus four-strain vaccine; egg-free; thimerosal-free; nasal vs. IM vs. intradermal</li> </ul> </li> </ul>	E/OH
Answer these questions: <ul style="list-style-type: none"> <li>What is your facility's chain of command?</li> <li>What is the structure of your Infection Prevention/Quality Committee? When does it meet?</li> </ul>	MCL
Determine if an annual infection prevention risk assessment was performed (The risk assessment documents and prioritizes infection risks for your facility): <ul style="list-style-type: none"> <li>If so, then make sure your infection prevention program is aligned to your facility's risks</li> <li>If not, conduct risk assessment: <ul style="list-style-type: none"> <li>Use a multidisciplinary team to conduct the Infection prevention risk assessment:</li> <li>What population does your facility serve?</li> <li>What procedures do you do?</li> <li>What community endemic infections are identified?</li> <li>Use previous facility surveillance and process monitoring data that is available</li> <li>Know your high risk patients and what special prevention measures they require</li> </ul> </li> </ul>	MCL

Task/skill	Track
<p>Become familiar with the regulatory bodies that govern your organization and their requirements (e.g., Joint Commission, Accreditation Association for Ambulatory Health Care [AAAHC], Det Norske Veritas [DNV], Centers for Medicare &amp; Medicaid Services [CMS], Occupational Safety and Health Administration [OSHA], Environmental Protection Agency [EPA], Food and Drug Administration [FDA], Department of Transportation [DOT], National Fire Protection Association [NFPA], National Institute for Occupational Safety and Health [NIOSH], and state health department).</p> <ul style="list-style-type: none"> <li>Determine state and/or local HAI coordinator (<a href="http://www.cdc.gov/hai/state-based/">http://www.cdc.gov/hai/state-based/</a>)</li> </ul>	MCL
<p>Become familiar with tools used for quality/performance improvement/patient safety:</p> <ul style="list-style-type: none"> <li>Root cause analysis</li> <li>Pareto chart</li> <li>Strengths-Weaknesses-Opportunities-Threats (SWOT)</li> <li>Fishbone diagram</li> <li>Flow chart</li> <li>Gap analysis</li> </ul>	MCL
<p>Determine your role in annual infection prevention education. To do this, answer the following:</p> <ul style="list-style-type: none"> <li>What infection prevention annual education is currently required at your facility?</li> <li>How is the annual education delivered? (live, computer-based, video, etc.)</li> <li>If live, what is the schedule?</li> <li>How are licensed independent practitioners (LIPs) and residents given annual education?</li> </ul>	E/R
Identify your facility's patient, family, and visitor IPC education process	E/R
<p>Learn how to do a literature search:</p> <ul style="list-style-type: none"> <li>Learn how to use PubMed</li> </ul>	E/R
<p>Learn basics of adult education:</p> <ul style="list-style-type: none"> <li>What makes adults different from other learners?</li> <li>Learn how best to develop materials for adults <ul style="list-style-type: none"> <li>What training needs does the staff have?</li> <li>Develop learning objectives based on those needs</li> <li>Create lesson plans based on the objectives</li> </ul> </li> </ul>	E/R
<p>Learn facility policies for:</p> <ul style="list-style-type: none"> <li>Pest control practices (e.g., bed bugs)</li> <li>Waste management: <ul style="list-style-type: none"> <li>Handling, storage, and transport of biohazardous waste</li> <li>Cleaning in special circumstances and populations (e.g., surgery, NICU)</li> </ul> </li> </ul>	EC
Determine how cleaning effectiveness is monitored	EC

Task/skill	Track
<b>Identify products your housekeeping (i.e., environmental Services [EVS]) personnel are using in unique circumstances and populations</b> <b>For example:</b> <ul style="list-style-type: none"> <li>▪ Tuberculocidal</li> <li>▪ Sporicidal (<i>C. diff</i>)</li> <li>▪ What is used in surgery and special care areas (e.g., NICU)?</li> </ul>	EC
<b>Learn basics of construction phases as they impact infection prevention:</b> <ul style="list-style-type: none"> <li>▪ Design</li> <li>▪ Renovation</li> <li>▪ Demolition</li> <li>▪ Maintenance</li> <li>▪ Repair</li> </ul>	EC
<b>Identify water-related features or decorations in your facility (e.g., fountains, fish tanks) and how they impact infection prevention</b> <ul style="list-style-type: none"> <li>▪ What is the cleaning schedule?</li> <li>▪ What products are used in the cleaning?</li> <li>▪ Are there state recommendations for environmental sampling? If so, how frequently?</li> </ul>	EC
<b>Learn your facility's HVAC-related policies and practices</b> <ul style="list-style-type: none"> <li>▪ How is it monitored?</li> <li>▪ What is the monitoring schedule?</li> <li>▪ What is done in the event of an abnormal finding?</li> <li>▪ Determine your authority to take action in the event of an abnormal finding</li> </ul>	EC
<b>Learn critical steps of cleaning, high-level disinfection, and sterilization. For example:</b> <ul style="list-style-type: none"> <li>▪ Event-related sterility</li> <li>▪ Chemical and biological indicators for different sterilization process</li> <li>▪ Testing for effective levels of high-level disinfectant solutions; and</li> <li>▪ Documentation/monitoring requirements</li> <li>♦ Recall steps for failed instrument processing and actions to take to mitigate risks</li> </ul>	CSDA
<b>Learn the importance of decontamination of instruments/scopes</b>	CSDA

# Stage 3: Days 121 – End of Year 1

Task/skill	Track
Network with other IPs to discuss common concerns and solutions	PD
<b>Introduce yourself to facility personnel with whom you will interact (based on your setting) within unique populations/services:</b> <ul style="list-style-type: none"> <li>Ambulatory surgery centers</li> <li>Ambulatory clinics</li> <li>Dialysis centers</li> <li>Long-term care facilities</li> <li>Pediatrics</li> <li>Pain management clinics</li> <li>Nursery</li> <li>Critical care</li> <li>Immunosuppressed</li> <li>Labor and delivery</li> <li>Anesthesia</li> <li>Behavioral health</li> <li>Emergency department</li> <li>Rehabilitation</li> <li>Home health</li> <li>Wound centers</li> </ul>	PD
Reassess IT needs identified in first 120 days and address any newly identified needs	PD
<b>Develop your skills:</b> <ul style="list-style-type: none"> <li>Leadership methods</li> <li>Effective communication</li> <li>Change management</li> <li>Project management</li> <li>Influence</li> <li>Facilitation</li> <li>Presentation skills</li> <li>Basic statistics</li> <li>Managing people</li> </ul>	PD
Create a personalized development plan (e.g. set goals, development and maintenance of competency)	PD
Take EPI® 101 and APIC's online class, "Microbiology 101 for Infection Preventionists"	PD
<b>Determine methods of antimicrobial susceptibility testing at your facility (e.g., minimum inhibitory concentration versus disc diffusion)</b> <ul style="list-style-type: none"> <li>Differentiate among prophylactic, empiric, and therapeutic uses of antimicrobials</li> </ul>	ID
<b>Continue to update your surveillance plan:</b> <ul style="list-style-type: none"> <li>Evaluate it (and schedule to evaluate it every six months or sooner, e.g., when National Healthcare Safety Network, or NHSN, definitions change, new services)</li> </ul>	EI
Identify infection prevention strategies used in your facility's unique populations/services	EI
<b>Establish internal mechanisms to analyze and validate surveillance data:</b> <ul style="list-style-type: none"> <li>Compare surveillance results to published data or other benchmarks</li> </ul>	EI
<b>Develop and disseminate reports:</b> <ul style="list-style-type: none"> <li>What is reported?</li> <li>How is it reported (written &amp; verbal)?</li> <li>Who receives the reports?</li> <li>How often?</li> </ul>	
Create a notification system based on surveillance plan, including epidemiologic significant findings	EI
Be familiar with your facility's antibiogramParticipate with facility antimicrobial stewardship program	

Task/skill	Track
<b>Learn the appropriate use of culturing during an outbreak:</b> <ul style="list-style-type: none"> <li>Healthcare worker culturing</li> <li>Collection of environmental samples that may be linked epidemiologically to outbreaks</li> </ul>	EI
<b>Understand the role of pulse field gel electrophoresis (PFGE) and whole human genome sequencing in outbreak investigation</b>	
<b>Develop evidence-based/informed infection prevention and control policies and procedures</b>	IA
<b>Attend or view NHSN training update:</b> <ul style="list-style-type: none"> <li>Ensure quality of data submission using NHSN guidance tools</li> </ul>	EI
<b>Learn effective ways to communicate facility publicly reported HAI status to key stakeholders:</b> <ul style="list-style-type: none"> <li>Senior leadership</li> <li>Physicians</li> <li>Committee</li> <li>Frontline staff</li> </ul>	EI
<b>Describe justification for elimination of artificial nails in patient care areas</b>	IA
<b>Develop a process for reporting hand hygiene monitoring compliance to stakeholders</b>	
<b>Monitor effectiveness of isolation precautions</b>	IA
<b>Determine process for isolation patients receiving therapeutic treatment and procedures</b>	
<b>Perform annual TB risk assessment</b>	IA
<b>Monitor CLABSI prevention processes (e.g., bundle compliances)</b>	IA
<b>Monitor pneumonia prevention processes (e.g., bundle compliance)</b>	IA
<b>Monitor CAUTI prevention processes (e.g., bundle compliance)</b>	IA
<b>Review the principles of asepsis in the operating room:</b> <ul style="list-style-type: none"> <li>Develop competence in assessing compliance with these principles during OR rounds</li> </ul>	IA
<b>Know environmental controls:</b> <ul style="list-style-type: none"> <li>Control of air quality, ventilation, and humidity</li> <li>Traffic control</li> <li>Surgical attire</li> <li>Housekeeping</li> <li>Storage of supplies</li> </ul>	
<b>Monitor Contact Precautions compliance</b>	IA
<b>Be familiar with your facility's antimicrobial stewardship program and your role with the team</b>	



Task/skill	Track
Continue to monitor Contact Precautions compliance	IA
Be familiar with your facility's antibiogram	
Incorporate safe injection practices into your department rounding	IA
<b>Understand your role in community emergency response:</b> <ul style="list-style-type: none"> <li>Contact your community's emergency response team</li> <li>Collaborate with relevant groups and agencies in planning community/facility responses to biologic threats and disasters (e.g., anthrax, influenza, flooding)</li> </ul> <b>Learn about commonly recognized bioterrorism agents and how they are transmitted:</b> <ul style="list-style-type: none"> <li>Anthrax</li> <li>Plague</li> <li>Tularemia</li> <li>Q fever</li> <li>Brucella</li> <li>Smallpox</li> <li>Botulism</li> </ul>	IA
Implement infection prevention and control strategies related to therapeutic and diagnostic procedures (e.g., dialysis, angiography, bronchoscopy, endoscopy)	IA
Know steps involved in foodborne outbreak management	IA
<b>Understand your facility's product process</b> <ul style="list-style-type: none"> <li>What is your facility's procedure for introducing new products?</li> <li>Determine process for dealing with product recalls (equipment, food, medication and supplies)</li> </ul>	IA
Locate USP797 pharmacy regulations that pertain to infection control	IA
Review and develop screening and immunizations programs to protect healthcare workers from new agents and exposures	E/OH
Be familiar with how physicians, students, contract workers, patients, and visitors are handled in your facility if there is a communicable disease exposure	E/OH
Assist occupational health with analysis & trending of illnesses of healthcare worker data	E/OH
Provide counseling, work restriction recommendations related to BBP exposure	E/OH
<b>Be familiar with respirator fit testing:</b> <ul style="list-style-type: none"> <li>TB healthcare worker history screening</li> <li>N-95 particulate respirator versus PAPR</li> </ul>	E/OH
<b>Analyze seasonal influenza coverage for facility by profession (e.g., medical staff, doctors, nurses):</b> <ul style="list-style-type: none"> <li>Research and implement methods for improving facility compliance rate</li> </ul>	E/OH

Task/skill	Track
<b>Learn your leadership's priorities and engage them</b>	MCL
<b>Participate in your facility's budgeting process, as needed:</b> <ul style="list-style-type: none"> <li>▪ Recommend specific equipment, personnel, and resources for the Infection Prevention and Control Program</li> </ul>	
<b>Develop and review/revise your infection control program plan:</b> <ul style="list-style-type: none"> <li>▪ Mission and vision statement</li> <li>▪ Goals</li> <li>▪ Measurable objectives</li> <li>▪ Action plans</li> <li>▪ Put date on your calendar to re-visit the risk assessment at least every six months</li> </ul>	MCL
<b>Determine your role during an accreditation survey or health department/CMS inspection</b> <b>Use CMS infection control worksheet to assess readiness</b>	MCL
<b>Collaborate with risk management/quality management in the identification and review of adverse and sentinel events:</b> <ul style="list-style-type: none"> <li>▪ Look for information on patient safety organizations</li> <li>▪ Participate in root cause analysis (as applicable)</li> </ul>	MCL
<b>Facilitate effective education of patients, families, and others regarding infection prevention and control measures</b>	E/R
<b>Update orientation and annual education</b>	E/R
<b>Learn how to critically review literature</b>	E/R
<b>Facilitate incorporation of applicable research findings into practice</b>	
<b>Develop/deliver educational materials for in-services:</b> <ul style="list-style-type: none"> <li>▪ What important research needs to be implemented by staff?</li> <li>▪ Reactive (e.g., new pandemic erupts and you need to train the staff)</li> <li>▪ Proactive (e.g., basics of infectious disease, transmission, prevention; hand hygiene)</li> <li>▪ Provide immediate feedback, education and or training when lapses in practice are observed</li> </ul>	E/R
<b>Collaborate with EVS to review and approve policies</b>	EC
<b>Collaborate with EVS to report cleaning effectiveness to key stakeholders</b> (e.g., infection control committee, frontline staff, administration)	EC
<b>Collaborate with EVS on exploring/selecting new cleaning products</b> <ul style="list-style-type: none"> <li>▪ What is your facility's procedure for introducing new products?</li> <li>▪ Determine process for dealing with recalls</li> </ul>	EC
<b>Collaborate with EVS on exploring/selecting new cleaning technologies</b>	

Task/skill	Track
Locate your facility's infection prevention construction policy and infection control risk assessment tool (ICRA)	EC
Participate in pre-construction/renovation meetings to provide guidance for infection control risks	
Review and/or develop policies related to your facility's water management system (e.g., Legionella prevention, dialysis systems, fountains and fish tanks)	EC
<b>Determine if your facility participates in reuse of single-use devices:</b> <ul style="list-style-type: none"> <li>Determine appropriate practices for reprocessing single-use devices</li> </ul>	CSDA
<b>Assess products under evaluation for their ability to be reprocessed:</b> <ul style="list-style-type: none"> <li>Manufacturers guidelines</li> <li>End users</li> <li>Product team</li> </ul>	CSDA
<b>Learn your facility's processes for disinfection and sterilization:</b> <ul style="list-style-type: none"> <li>Observe processing of patient care equipment in specialty areas:                             <ul style="list-style-type: none"> <li>Endoscopy/Bronchoscopy</li> <li>Central Services</li> <li>Respiratory therapy</li> <li>Surgical/ Procedural areas and Anesthesia</li> <li>Dialysis</li> <li>Angiography</li> </ul> </li> </ul>	CSDA

# Stage 4: Beginning of Year 2 – Passing the CIC Exam

Task/skill	Track
Volunteer in local chapter	PD
Take EPI® 102	PD
Shadow in areas of unique population or in areas in which you are unfamiliar	PD
<b>Continue to develop your soft skills:</b> <ul style="list-style-type: none"> <li>▪ Developing a business case for your program</li> <li>▪ Leadership methods</li> <li>▪ Performance improvement science</li> </ul>	PD
<b>Prepare for the CIC examination:</b> <ul style="list-style-type: none"> <li>▪ Apply for Competency Advancement Award (CAA) grant or state sponsored scholarship opportunities (if available)</li> <li>▪ Review the CBIC Candidate Handbook</li> <li>▪ Take APIC's online certification review class</li> <li>▪ Study <i>APIC Text</i></li> <li>▪ Connect with chapter study group (if one exists)</li> </ul>	PD
Recognize limitations and advantages of the types of tests used to diagnose infectious processes	ID
<b>Recognize the statistical significance of data</b> <ul style="list-style-type: none"> <li>▪ Use basic statistical techniques to describe data (e.g., mean, standard deviation, rates, ratios, proportions)</li> <li>▪ Create and implement action plans based on your surveillance data</li> </ul>	EI
Provide guidance on how to interpret and generate action following antibiogram review	EI
Prepare reports for dissemination, evaluate strategies implemented for control	EI
Learn NHSN advanced analysis/building custom reports	EI
<b>Develop strategies to improve hand hygiene compliance:</b> <ul style="list-style-type: none"> <li>▪ Explore hand hygiene monitoring methods (manual versus electronic observations, hand hygiene product usage)</li> <li>▪ Recruitment of hand hygiene champions throughout facilities</li> <li>▪ Reward and recognition</li> </ul>	IA
Review, and become involved in development of, policies of other facility departments, as needed	IA
Communicate compliance with isolation precautions to key stakeholders (Infection Prevention & Control Committee, departments, etc.)	IA
<b>Develop strategies to improve CLABSI prevention process compliance</b> <ul style="list-style-type: none"> <li>▪ Explore CLABSI prevention collaboratives and consider participating. These collaboratives may be found in: <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul> </li> </ul>	IA

Task/skill	Track
<b>Develop strategies to improve pneumonia prevention process compliance</b> <b>Explore pneumonia prevention collaboratives and consider participating. These collaboratives may be found in:</b> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul>	IA
<b>Develop strategies to improve CAUTI prevention process compliance</b> <b>Explore CAUTI prevention collaboratives and consider participating. These collaboratives may be found in:</b> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul>	IA
<b>Develop strategies to improve SSI prevention process compliance</b> <b>Explore SSI prevention collaboratives and consider participating. These collaboratives may be found in:</b> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul>	IA
<b>Develop strategies to improve <i>C. difficile</i> prevention process compliance</b> <b>Explore <i>C. difficile</i> prevention collaboratives and consider participating. These collaboratives may be found in:</b> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul>	IA
<b>Develop strategies to improve MDRO prevention process compliance</b> <b>Explore MDRO prevention collaboratives and consider participating. These collaboratives may be found in:</b> <ul style="list-style-type: none"> <li>▪ State health departments</li> <li>▪ Quality improvement organizations</li> <li>▪ Hospital associations</li> </ul>	IA
<b>Provide guidance on how to interpret and generate action following antibiogram review</b>	
<b>Learn about outbreaks that have occurred in different settings as a result of breaks in infection prevention practices</b>	IA
<b>Review/revise emergency preparedness plans</b>	IA
<b>Learn infection prevention practices to prevent transmission of bioterrorism agents:</b> <ul style="list-style-type: none"> <li>▪ Learn signs and symptoms of bioterrorism agents</li> </ul>	

Task/skill	Track
<b>Participate in cost benefit assessment, efficacy studies, and product evaluation</b> <ul style="list-style-type: none"> <li>Recommend changes in practice based on product trials</li> <li>Make recommendations, based on product's ability to be reprocessed (if applicable)</li> </ul>	IA
<b>Assess your pharmacy's compliance with USP797 regulations that pertain to infection control:</b> <ul style="list-style-type: none"> <li>Make recommendations based on your assessment</li> </ul>	IA
<b>Assist with providing guidance for counseling, testing, treatment, prophylaxis and work restrictions following communicable disease exposure</b>	E/OH
<b>Conduct annual review of facility BBP exposure control plan</b>	E/OH
<b>Assist with analysis &amp; trending of data from BBP exposure:</b> <ul style="list-style-type: none"> <li>Prepare annual sharps safety risk assessment per Federal OSHA</li> </ul>	
<b>Begin to formulate actions steps to making your infection prevention business case</b>	MCL
<b>Conduct risk assessment and develop IPC plan for following year</b>	MCL
<b>Recommend changes in practice based on current evidence, clinical outcomes and financial implications</b>	
<b>Develop and implement strategies that engage the patient, family, and others in activities aimed at preventing infection.</b>	E/R
<b>Recognize the appropriate epidemiologic study to investigate a problem:</b> <ul style="list-style-type: none"> <li>Case control, cohort studies</li> </ul>	E/R
<b>Develop evaluation plan to assess success/failure of your training (e.g., observation of practices, process measures)</b>	E/R
<b>Recommend revisions to EVS policies as needed, based on new and emerging diseases and threats</b>	EC
<b>Participate in cost benefit assessment, efficacy studies, and product evaluation:</b> <ul style="list-style-type: none"> <li>Recommend changes in practice based on product trials</li> </ul>	EC
<b>Develop contingency plan for potential utility outages, based on the project risk assessment</b>	EC
<b>Develop contingency plan for water outage</b>	EC
<b>Develop contingency plan for potential HVAC outages</b>	EC
<b>Learn the special disinfection/sterilization requirements for resilient pathogens. For example:</b> <ul style="list-style-type: none"> <li>Creutzfeldt-Jakob Disease (CJD)</li> <li>Human Papillomavirus (HPV)</li> </ul>	CSDA
<b>After observation of high-level disinfection and sterilization processes at your facility, determine if practices meet guidelines and update policies and procedures as needed</b>	

The background is a solid orange color. On the left side, there is a vertical white strip. Overlapping this strip are four horizontal lines in orange, green, light blue, and red. A wide, light-colored curved band sweeps from the bottom left towards the top right. The text is positioned in the lower right area of the orange background.

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