Advancing Infection Control Capacity & Education (ACE):
COACHING TO CERTIFICATION

Session 7: Environment of Care – Part 1

Presented on February 14, 2023, by: Meghan Millet, BSN, RN

Oregon Health Authority
HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM
Public Health Division

Agenda

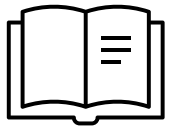
What you can expect for the next hour:

- ❑ **Introductions**
- ❑ **Discussion of core Environment of Care exam competency expectations and objectives**
- ❑ **Coaching and study session with questions and solutions on Environment of Care**
- ❑ **Review of next steps, how to access resources, and where to find slides and program information**

Presentation Icons

Question

Solution



Study Guide Reference

Topic Review

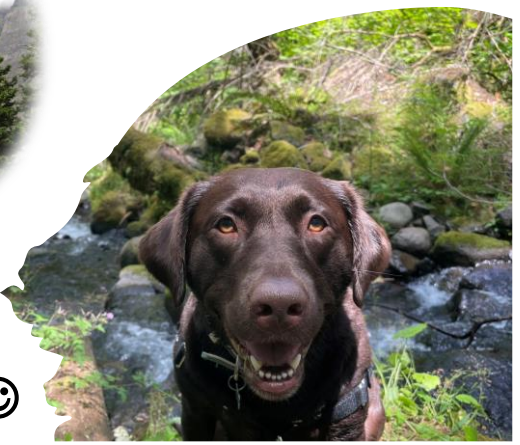
Rationale

“Breaking It down further”

A little about me…..

OHA Region 6 Infection Preventionist
(Hood River, Wasco, Gilliam, Sherman Counties)

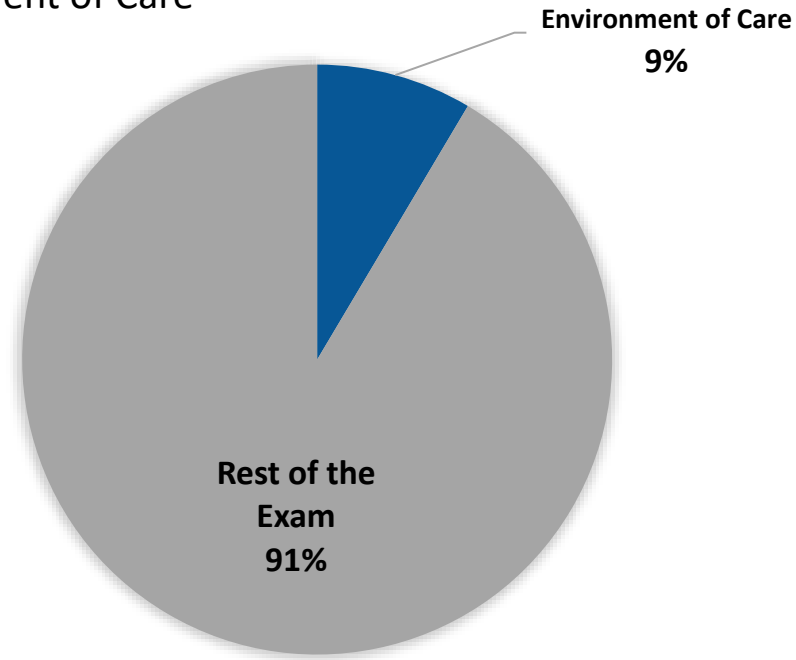
- 13 years as a registered nurse in multiple fields of nursing
- Serving communities in the public health sector since 2018. Professional passion for public health practice and infection prevention.
- Background in local outbreak response and disease control
- Personal favorites…..spending time outside doing anything in nature, exercise, cooking and hanging out with family, friends and my best girl Nola



Nola ☺

Environment of Care: Part 1 - 2

*__14 questions__ out of 150 questions on the CIC® exam will cover the domain Environment of Care



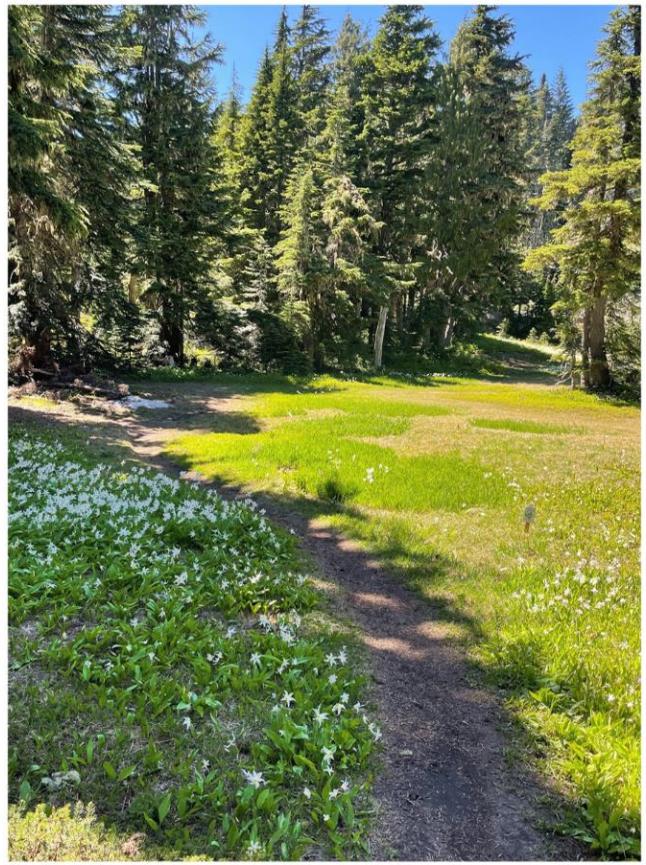
- Recognize and monitor elements important for a safe care environment (e.g. Heating, Ventilation, and Air Conditioning, water standards, construction)
- Assess infection risks of design, construction, and renovation that impact patient care settings
- Provide recommendations to reduce the risk of infection as part of the design, construction, and renovation process
- Collaborate on the evaluation and monitoring of environmental cleaning and disinfection practices and technologies
- Collaborate with others to select and evaluate environmental disinfectant products

Key Concepts -- Environment of Care

- The environment is an important source of healthcare associated infections
- Adherence to established environmental infection prevention practices must be followed to maintain a safe environment of care for both patients and providers
- Effective management plans are essential for taking charge of the environment of care

A little encouragement. This is attainable! Remember…..

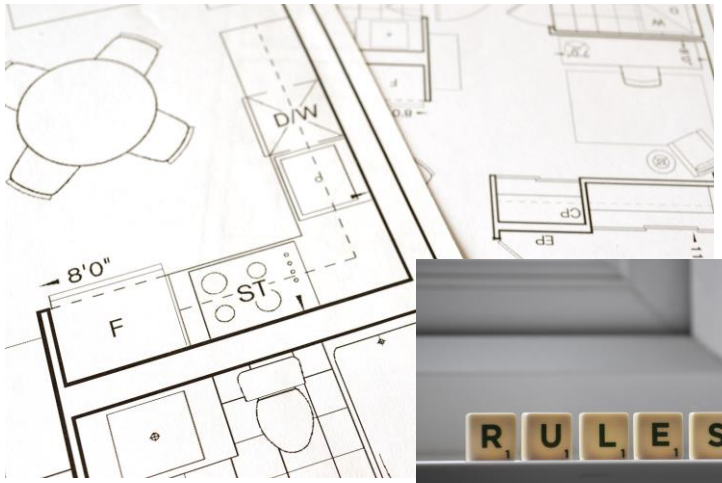
- We are all different
- We are all **valuable**
- Our differences diversify and strengthen our teams and that is very important
- **Your pathway to certification is your own**
- You can do this!!!

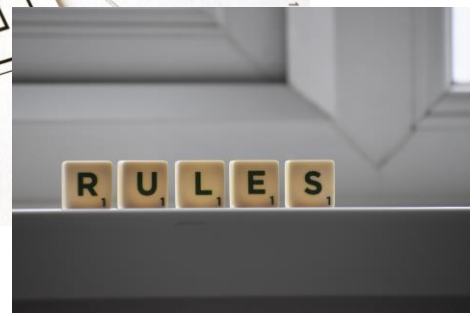


Q1: Which agency or agencies has regulatory authority over aspects of healthcare facilities design, construction, and renovation related to Infection Prevention and Control?

1) Occupational Health and Safety Administration (OSHA)
2) National Institute for Occupational Safety and Health (NIOSH)
3) National Institute of Health (NIH)
4) Centers for Disease Control and Prevention (CDC)

a. 1
b. 1, 2
c. 2, 3, 4
d. 1, 2, 3, 4





APIC Study Guide Practice Exam 1, Question 109

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2) National Institute for Occupational Safety and Health (NIOSH)
3) National Institute of Health (NIH)
4) Centers for Disease Control and Prevention (CDC)

a. 1

b. 1, 2

c. 2, 3, 4

d. 1, 2, 3, 4

Rationale: OSHA is the only agency listed above that has regulatory authority over any aspect of healthcare facility design, construction, and renovation. OSHA has set regulations for engineering controls related to bloodborne pathogens and to isolation of suspected or confirmed cases of Tuberculosis in an airborne isolation room.

Reference: Occupational Health and Safety Administration (OSHA) https;//www.osha.gov

**Breaking it Down Further…..

- **NIOSH –** was established by the Occupational Safety and Health Act of 1970 as a research agency focused on the study of worker safety and health, and empowering employers and workers to create safe and healthy workplaces. NIOSH is a part of the U.S. Centers for Disease Control and Prevention, in the U.S. Department of Health and Human Services. Reference here.

- **CDC –** is one of the major operating components of the Department of Health and Human Services and is the nation's leading science-based, data-driven, service organization. CDC's mission is to provide health information that protects our nation against expensive and dangerous health threats, and responds when these arise. Reference here.

- **NIH –** is a part of the U.S. Department of Health and Human Services and is the nation's leading medical research agency.

Q2: Which of the following minimum efficiency reporting values (MERV) is sufficient to meet minimum OR standards for air filtration?

a. MERV 10
b. MERV 12
c. MERV 14
d. MERV 16

Reference: Study Guide Ch.9 Practice Questions, Question #4

Q2: Which of the following minimum efficiency reporting values (MERV) is sufficient to meet minimum OR standards for air filtration?

a. MERV 10
b. MERV 12
c. MERV 14
d. MERV 16

Rationale: Heating, ventilation, and air conditioning (HVAC) systems include filtration systems to remove particulate matter, including airborne microbes. The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) created a numerical system to rate filtration based on the particle size that the filter could remove. The system runs on a scale of 1 to 16, with 1 being the filtration system that removes only large particulate matter and 16 being a filtration system that removes greater than 95 percent of particulate matter. The minimum standard for air filtration in an OR is 90 percent, which equates to a MERV of 14.

Reference: *APIC Text*, 4th edition, Chapter 114 – Heating, Ventilation and Air Conditioning

Q3: The director of EVS has notified you that the organization will be changing cleaning products due to a change in contract requirements. When selecting a new product, you should consider which of the following?

1) What other organizations are using this product
2) Ease of use
3) Efficacy
4) The preference of the EVS director

a. 2, 3
b. 3, 4
c. 3, 4
d. 1, 2

Reference: Study Guide Chapter 9 Practice Questions, question 1

***Please note the repeat answer response is copied directly from the book.**

Q3: The director of EVS has notified you that the organization will be changing cleaning products due to a change in contract requirements. When selecting a new product, you should consider which of the following?

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2) Ease of use
3) Efficacy
4) The preference of the EVS director

a. 2, 3

b. 3, 4

c. 3, 4

d. 1, 2

Rationale: When selecting disinfectants or cleaning products, factors to consider include ease of use, efficacy, acceptability, safety and cost.

Reference: *APIC Text*, 4th edition, Chapter 107 – Environmental Services

Q4: Your organization is planning a major construction project. You have been asked to complete the Infection Control Risk Assessment (ICRA) by the project manager. You explain that:

a. It is his job to complete the ICRA
b. The construction company will complete the ICRA
c. An ICRA is not needed for the project
d. The ICRA must be conducted by a committee with expertise in a variety of areas

Reference: Study Guide Ch. 9 Practice Questions, question 2

Q4: Your organization is planning a major construction project. You have been asked to complete the Infection Control Risk Assessment (ICRA) by the project manager. You explain that:

a. It is his job to complete the ICRA
b. The construction company will complete the ICRA
c. An ICRA is not needed for the project
d. The ICRA must be conducted by a committee with expertise in a variety of areas

Rationale: The ICRA shall be conducted by a committee with expertise in infection control, direct patient care, risk management, facility design, construction, ventilation, safety, and epidemiology. The committee shall provide documentation of the risk assessment together with the updated mitigation planning throughout the construction.

Reference: *APIC Text*, 4th edition, Chapter 116 – Construction and Renovation

Q5: The appropriate hot water temperature for laundering linen is:

a. 160 degrees Fahrenheit
b. 140 degrees Fahrenheit
c. 165 degrees Fahrenheit
d. 145 degrees Fahrenheit

Reference: Study Guide Chapter 9 Practice Questions, question 3

Q5: The appropriate hot water temperature for laundering linen is:

a. 160 degrees Fahrenheit

b. 140 degrees Fahrenheit

c. 165 degrees Fahrenheit

d. 145 degrees Fahrenheit

Rationale: Hot water also provides an effective means of destroying organisms. A temperature of at least 160 degrees Fahrenheit for a minimum of 25 minutes is recommended for hot water washing.

Reference: *APIC Text*, 4th edition, Chapter 111 – Laundry, Patient Linens, Textiles, and Uniforms

Q6: A healthcare facility is undergoing extensive renovation. Surveillance for which of the following organisms would be particularly important during construction or renovation in a healthcare facility?

a. MRSA, VRE, and other MDROs
b. Legionella and *Aspergillus*
c. Gram-negative bacteria
d. Mycobacterium abscessus

Photo Credit: Ken Fager

Reference: Study Guide Practice Exam 1, question 115

Q6: A healthcare facility is undergoing extensive renovation. Surveillance for which of the following organisms would be particularly important during construction or renovation in a healthcare facility?

a. MRSA, VRE, and other MDROs

b. Legionella* and *Aspergillus

c. Gram-negative bacteria

d. Mycobacterium abscessus

Rationale: The risk of HAIs increases significantly when hospitals are undergoing construction and renovation. Dust particles contaminated with bacteria and fungi are dispersed and pose a health risk for patients, staff and visitors. Construction related HAI's are primarily caused by fungi, and to a lesser extent by bacteria. The most common etiological agent is *Aspergillus*, in particular, *A. fumigatus*, *A. flavus*, *A. niger* and *A. terreus*. *A. fumigatus* is considered the most pathogenic species and is responsible for more than 90 percent of all *Aspergillus* infections. The most common group of bacteria associated with construction-related nosocomial infections are *Legionella* species, including *L. pneumophila*. *Legionella* bacteria have been isolated from soil and dust but are more often associated with aquatic environments.

Reference: *APIC Text*, 4th edition, Chapter 11 – Surveillance; *APIC Text*, 4th edition, Chapter 116 – Construction and Renovation

**Breaking it Down Further…..

Typical water sources in hospitals supporting colonization with *Legionella* bacteria are cooling towers, evaporative condensers, heated potable water systems, and heating and air conditioning systems. During construction and renovation processes, water systems are often disrupted. Potable water can become contaminated with *Legionella* when the water supply is restored. The introduction of contaminated soil into the plumbing system, as well as optimized growth conditions for bacteria in stagnant water, may increase the number of *Legionella* bacteria.

Reference: *APIC Text*, 4th edition, Chapter 11 – Surveillance; *APIC Text*, 4th edition, Chapter 116 – Construction and Renovation

Q7: The manager of linen services has contacted you for guidance regarding transporting clean and soiled linens in the same vehicle. Your response is:

a. Clean and dirty linens should never be transported in the same vehicle

b. Clean and dirty linens can be transported together in the same vehicle if they are clearly separated

c. Clean and dirty linens can be transported together without the need to separate the items

d. The health department must give permission to transport clean and dirty linen together

Reference: Study Guide Chapter 9 Practice Questions, question 5

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c. Clean and dirty linens can be transported together without the need to separate the items

d. The health department must give permission to transport clean and dirty linen together

Rationale: Clean and soiled textiles may be transported in the same vehicle if functional separation is maintained using physical barriers and/or space separation sufficient to protect clean textiles from soiled textiles.

Reference: *APIC Text,* 4th edition, Chapter 111 – Laundry, Patient Linens, Textiles, and Uniforms

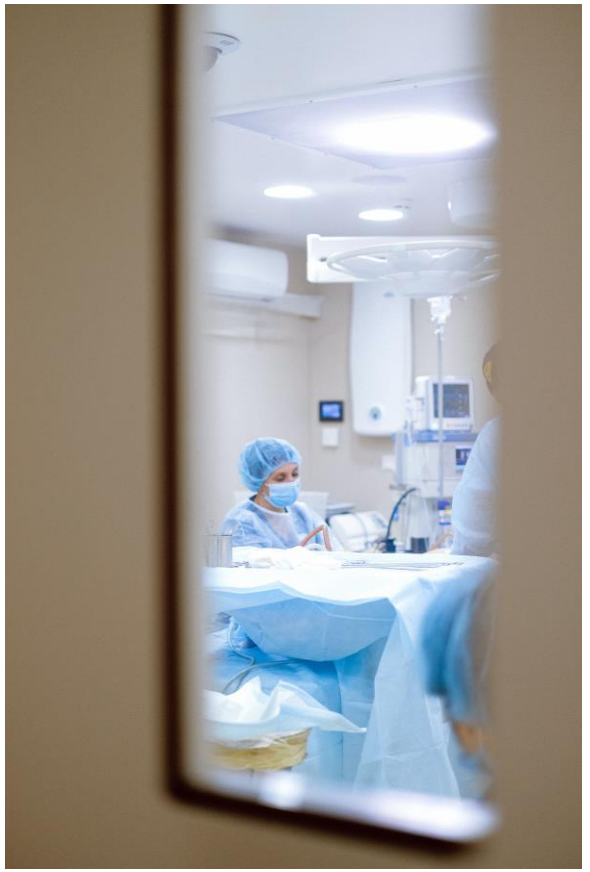
Q8: Which of the following would be an acceptable route for diffusion of air in the OR?

a. Laminar airflow with a supply over the surgical table and an exhaust in the floor at the center of the room

b. Laminar airflow with a supply over the surgical table and an exhaust near the floor at the periphery of the room

c. Noninductional unidirectional infusion of air with a supply over the surgical table and an exhaust in the floor at the center of the room

d. Noninductional unidirectional infusion of air with a supply over the surgical table and an exhaust near the floor at the periphery of the room



Reference: Study Guide Chapter 9 Practice Questions, question 6

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d. Noninductional unidirectional infusion of air with a supply over the surgical table and an exhaust near the floor at the periphery of the room

Rationale: Airflow in a healthcare facility should move from a clean area to one that is considered to be less clean. In the OR, the air supply should be from the ceiling near the center of the room, and the air exhaust should be near the floor on the periphery of the room.

Reference: *APIC Text*, 4th edition, Chapter 114 – Heating, Ventilation and Air Conditioning

Q9: According to the OSHA Bloodborne Pathogen requirements, the appropriate concentration for household bleach used to clean up a blood spill on a nonporous surface is:

a. 1:10
b. 1:100
c. 1:150
d. 1:50

Reference: Study Guide Chapter 9 Practice Questions, question 7

Q9: According to the OSHA Bloodborne Pathogen requirements, the appropriate concentration for household bleach used to clean up a blood spill on a nonporous surface is:

a. 1:10

b. 1:100

c. 1:150

d. 1:50

Rationale: If a spill occurs on a nonporous surface, a 1:100 dilution of household bleach (one part plus 99 parts water of 0.25 cup of bleach in a gallon of water) is a highly effective disinfectant and is the least expensive. A 1:10 dilution of household bleach (one part household bleach plus nine parts bleach water of 1.5 cups of bleach in one gallon of water) is required for porous surfaces and large areas.

Reference: *APIC Text*, 4th edition, Chapter 107 Environmental Services

Q10: You have been asked to advise the design team of a new healthcare facility on the planning for an airborne infection isolation room (AIIR). Which of the following are correct recommendations for this type of room in a new facility?

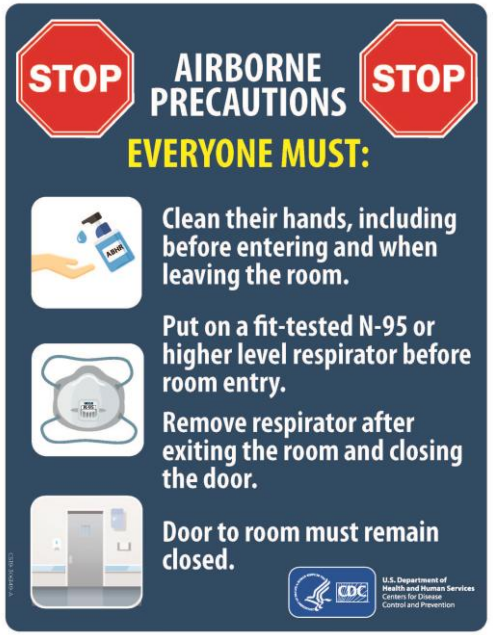
1) The AIIR must have an audible alarm to indicate when negative airflow is not being maintained
2) If the AIIR is a permanent, dedicated negative airflow room, then the air should exhaust to the outside
3) The AIIR must have at least 12 air exchanges per hour
4) The AIIR is required to have an anteroom

a. 1, 2

b. 2, 3

c. 1, 2, 3

d. 1, 2, 3, 4



https://www.cdc.gov/infectioncontrol/pdf/airborne-precautions-sign-P.pdf

Reference: Study Guide Chapter 9 Practice Questions, question 8

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4) The AIIR is required to have an anteroom

a. 1, 2

b. 2, 3

c. 1, 2, 3

d. 1, 2, 3, 4

Rationale: Airborne infection isolation rooms (AIIR) should be maintained under negative air pressure to ensure the that airborne infectious organisms are not ventilated into the facilities corridor. These rooms must have at least 12 air changes per hour and newly constructed AIIR's must have a visible means of monitoring air flow.

Reference: *APIC Text*, 4th edition, Chapter 116 Construction and Renovation

Q11: During infection prevention rounds, you discover a small bucket filled with liquid inside the cart used by an EVS staff member. The staff person tells you that she pours her cleaning solution into the bucket because it is easier than pouring it from the product's container. Your response is:

a. Tell her that this practice is acceptable
b. Talk to the EVS manager and ask that she is placed in corrective action
c. Explain that as long as she writes the name of the product on the bucket, the practice is acceptable
d. Explain that the cleaning solution container must be labeled with the chemical content, name, and expiration date

Reference: Study Guide Chapter 9 Practice Questions, question 9

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c. Explain that as long as she writes the name of the product on the bucket, the practice is acceptable

d. Explain that the cleaning solution container must be labeled with the chemical content, name, and expiration date

Rationale: Containers for cleaning agents must be labeled in accordance with regulatory requirements (e.g. chemical content, name, expiration date).

Reference: *APIC Text*, 4th edition, Chapter 107 Environmental Services

Q12: The water temperature range recommended by the CDC for prevention of growth of Legionella bacteria is:

a. Hot water at 124 degrees Celsius and above and cold water at 68 degrees Celsius
b. Hot water at 108 degrees Celsius and above and cold water at 77 degrees Celsius
c. Hot water at 110 degrees Celsius and above and cold water at 80 degrees Celsius
d. Hot water at 77 degrees Celsius and above and cold water at 50 degrees Celsius

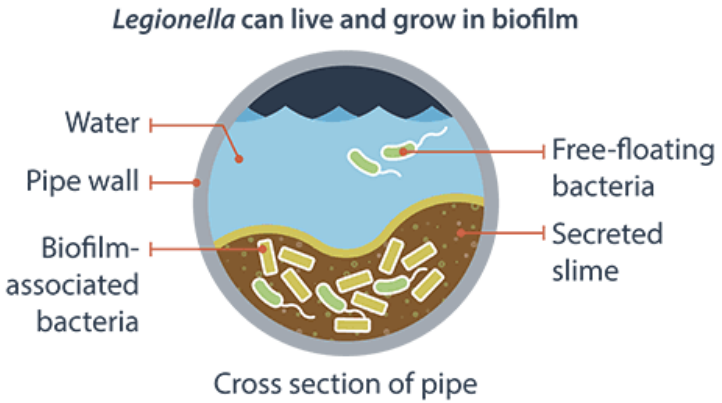

Photo Credit: Emanuele Neri

Reference: Study Guide Chapter 9 Practice Questions, question 10

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c. Hot water at 110 degrees Celsius and above and cold water at 80 degrees Celsius

d. Hot water at 77 degrees Celsius and above and cold water at 50 degrees Celsius

Rationale: *Legionella* species are bacteria that are naturally found in water sources, including municipal drinking water. Infection with *Legionella* can occur through inhalation of aerosols containing the bacteria, and can result in pneumonia. The optimum temperature range for growth of *Legionella* is between 25 degrees Celsius and 42.2 degrees Celsius (77 degrees Fahrenheit to 108 degrees Fahrenheit) so the CDC recommendations have been made to maintain water temperatures that fall outside that range and are therefore not optimal for growth of *Legionella*.

Reference: *APIC Text*, 4th edition, Chapter 115 – Water Systems Issues and Prevention of Waterborne Infectious Disease in Healthcare Facilities

Q13: Which of the following air filtration methods has the highest filtering efficiency compared to the others?

a. Diffusion
b. Straining
c. Impingement
d. Interception

Photo Credit: Shawnson

Reference: Study Guide Practice Exam 1, question 87

Q13: Which of the following air filtration methods has the highest filtering efficiency compared to the others?

a. Diffusion

b. Straining

c. Impingement

d. Interception

Rationale: When air enters a facility's ventilation system from the outside it passes through a series of filters that remove particulate matter. The first bank of filters has low to medium efficiency for removing particles and can include straining, impingement, and interception filtration methods. The air is then mixed with the recirculated air from the facility and filtered again with high efficiency filtration methods including diffusion filtration.

Reference: CDC Guidelines for Environmental Infection Control in Health-Care Facilities, 2003

**Breaking it Down Further…..

Table 5. Filtration methods*

Basic method	Principle of performance	Filtering efficiency
Straining	Particles in the air are larger than the openings between the filter fibers, resulting in gross removal of large particles.	Low
Impingement	Particles collide with filter fibers and remain attached to the filter. Fibers may be coated with adhesive.	Low
Interception	Particles enter into the filter and become entrapped and attached to the filter fibers.	Medium
Diffusion	Small particles, moving in erratic motion, collide with filter fibers and remain attached.	High
Electrostatic	Particles bearing negative electrostatic charge are attracted to the filter with positively charged fibers.	High

Reference: https://www.cdc.gov/infectioncontrol/guidelines/environmental/background/air.html#table5

Q14: Which of the following is the most reliable method of monitoring the effectiveness of environmental cleaning in a healthcare facility?

a. Visual inspection of the room after cleaning

b. An adenosine triphosphate bioluminescence test after cleaning

c. Fluorescent marking of a surface prior to cleaning with follow up after cleaning to determine if the mark was removed

d. Environmental cultures using Rodac plates

Photo Credit: Manchester Metropolitan University

Reference: Study Guide Chapter 9 Practice Questions, question 12

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a. Visual inspection of the room after cleaning

b. An adenosine triphosphate bioluminescence test after cleaning

c. Fluorescent marking of a surface prior to cleaning with follow up after cleaning to determine if the mark was removed

d. Environmental cultures using Rodac plates

Rationale: Cleaning of the patient care environment with special attention to high touch surface is important for the prevention of healthcare-associated infections. The effectiveness of cleaning may be assessed in several ways, and this should be carried out in conjunction with timely feedback to environmental services personnel. The most reliable method to monitor cleaning is to use environmental cultures with Replicate Organism Detection and Counting (RODAC) plates. This method allows direct detection and counting of organisms from the environmental surfaces, rather than relying on a proxy that may detect cleanliness but not whether there has been an acceptable reduction in the bio burden after cleaning.

Reference: *APIC Text*, 4th edition, Chapter 107 – Environmental Services

Q15: The Food and Drug Administration (FDA) approves which of the following:

a. Liquid disinfectants used for cleaning and disinfectants
b. Medications only
c. Antiseptics
d. Disinfectants and wipes

Reference: Study Guide Chapter 9 Practice Questions, question 13

Q15: The Food and Drug Administration (FDA) approves which of the following:

a. Liquid disinfectants used for cleaning and disinfectants
b. Medications only
c. Antiseptics
d. Disinfectants and wipes

Rationale: Antiseptics are approved by the FDA as antimicrobial agents for safe use on the skin. They are not to be used for cleaning inanimate objects or environmental surfaces because of their unproven efficacy on nonhuman surfaces.

Reference: *APIC Text*, 4th edition, Chapter 107 – Environmental Services

**Breaking it Down Further…..

The scope of FDA's regulatory authority is very broad. FDA's responsibilities are closely related to those of several other government agencies. Often frustrating and confusing for consumers is determining the appropriate regulatory agency to contact. The following is a list of traditionally-recognized product categories that fall under FDA's regulatory jurisdiction; however, this is not an exhaustive list.

For healthcare in general, FDA regulates:

Foods, Including:

- ✓ dietary supplements
- ✓ bottled water
- ✓ food additives
- ✓ infant formulas
- ✓ other food products (although the U.S. Department of Agriculture plays a lead role in regulating aspects of some meat, poultry, and egg products)

Drugs, including:

- ✓ prescription (both brand-name and generic
- ✓ non-prescription (over-the-counter) drugs

Biologics, including:

- ✓ vaccines for humans
- ✓ blood and blood products
- ✓ cellular and gene therapy products
- ✓ tissue and tissue products
- ✓ allergenics

Medical Devices, including:

- ✓ simple items like tongue depressors and bedpans
- ✓ complex technologies such as heart pacemakers
- ✓ dental devices
- ✓ surgical implants and prosthetics

FDA Reference here

FDA U.S. FOOD & DRUG ADMINISTRATION

Q16: A nurse manager from a Rehabilitation Unit is requesting that aerators be installed on the sinks in the patient rooms on her unit. The IP should explain that:

a. Aerators should be placed on all sinks in the ICU only

b. Aerators are more effective when combined with an ultraviolet water disinfection method

c. Aerators increase the risk of HAIs

d. Low-flow aerators are suitable to use with this population

Photo Credit: Neoperl

Reference: Study Guide Practice Exam 1, question 12

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a. Aerators should be placed on all sinks in the ICU only

b. Aerators are more effective when combined with an ultraviolet water disinfection method

c. Aerators increase the risk of HAIs

d. Low-flow aerators are suitable to use with this population

Rationale: Various types of equipment and fixtures can promote the growth of water-associated pathogens. Important water reservoirs for these organisms include potable water systems and cooling towers, flush sinks, facet aerators, hoppers and toilets, eyewash/drench shower stations, chest/ice machines, water baths used to thaw or warm blood products and other liquids, and whirlpool or spa-like baths. Facet aerators on sinks can enhance growth of waterborne organisms. Aerators are not recommended, but if they must be used, especially in an area with immunocompromised patients, a systematic cleaning routine should be established.

Reference: *APIC Text*, 4th edition, Chapter 115 – Water Systems Issues and Prevention of Waterborne Infectious Disease in Healthcare Facilities

Q17: A major hurricane is forecast for your area and you need to plan for the possible contamination of potable water that is supplied to your facility. Which of the following should be included in your planning?

a. You will need at least a day's worth of back up water supplies available
b. You will need one liter per day of drinking water for all patients and healthcare workers
c. All back up water must be stored on site for easy access
d. You will need at least 25 gallons of water per patient per day to maintain care

Reference: Study Guide Practice Exam 1, question 73

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c. All back up water must be stored on site for easy access

d. You will need at least 25 gallons of water per patient per day to maintain care

Rationale: In the event of a disaster, it is critical to ensure that there is a reliable supply of water available for drinking and for patient care activities. Individuals in the facility will need at least 2 liters of drinking water per day per person, and additional water will be needed for bathing, flushing toilets, dialysis, cooking, and other activities. It is estimated that a facility will need 25 gallons of water per patient per day to maintain these patient care activities. Water may be stored on-site or off-site but it must be accessible in the event of an emergency.

Reference: *APIC Text*, 4th edition, Chapter 119 – Emergency Management

Q18: A case of healthcare-associated Mycobacterium chelonae respiratory infection has been identified in a patient. Of the following exposures that the patient had in the facility, which should be investigated as a potential source of infection?

1) Bronchoscopes
2) Dialysis
3) Hydrotherapy pool
4) Ice from the tap water used during surgery

a. 1
b. 1, 3
c. 1, 3, 4
d. 1, 2, 3, 4

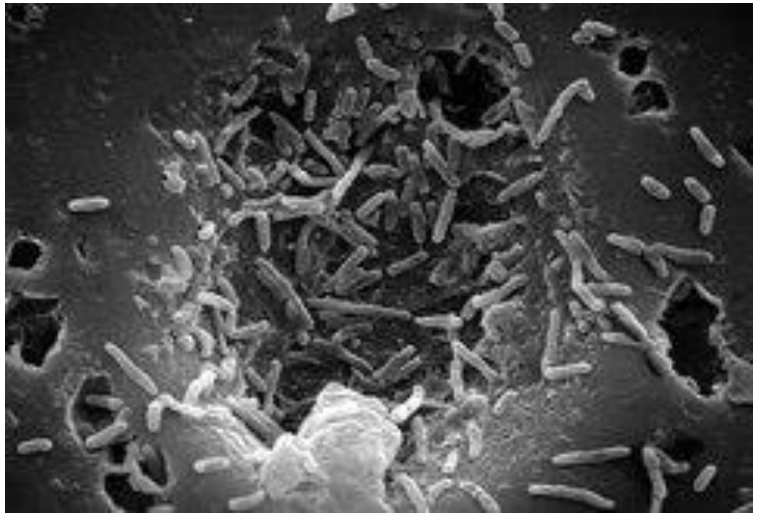


Photo Credit: Janice Haney Carr

Q18: A case of healthcare-associated Mycobacterium chelonae respiratory infection has been identified in a patient. Of the following exposures that the patient had in the facility, which should be investigated as a potential source of infection?

1) Bronchoscopes
2) Dialysis
3) Hydrotherapy pool
4) Ice from the tap water used during surgery

a. 1
b. 1, 3
c. 1, 3, 4
d. 1, 2, 3, 4

Rationale: *Mycobacterium chelonae* belongs to the family of nontuberculous mycobacteria (NTM) classified in the rapidly growing mycobacteria (RGM), Runyon group IV. *M. chelonae* are ubiquitous in the environment and have been isolated from both natural and potable water sources, soil, contaminated solutions and reptiles. The organism can grow in distilled and unsupplemented water. Likely sources of healthcare-related exposure may occur from bronchoscopes that were processed with tap water or exposure to a hydrotherapy pool.

Reference: CDC Guidelines for Environmental Infection Control in Health-Care Facilities, 2003

Q19: The heating, ventilation, and air conditioning system will need to be shut down in one patient care unit of your hospital for repairs that are anticipated to take two hours. Which of the following protocols should be followed for this event?

a. Relocate all patients to other units while the shut down is in progress

b. Require all patients to wear a surgical mask while the shut-down is in progress

c. Relocate immunocompromised patients if necessary and provide emergency back up ventilation or portable units for other rooms

d. No protocol needs to be followed as the short shut down period will not affect any patients

Photo Credit: Judy Baxter

Reference: Study Guide Practice Exam 1, question 81

Q19: The heating, ventilation, and air conditioning system will need to be shut down in one patient care unit of your hospital for repairs that are anticipated to take two hours. Which of the following protocols should be followed for this event?

a. Relocate all patients to other units while the shut down is in progress

b. Require all patients to wear a surgical mask while the shut-down is in progress

c. Relocate immunocompromised patients if necessary and provide emergency back up ventilation or portable units for other rooms

d. No protocol needs to be followed as the short shut down period will not affect any patients

Rationale: Any shut-down of the HVAC must be coordinated with Infection Control to protect patient safety. Immunocompromised patients should be moved from the area if possible and an alternate ventilation method (emergency back-up or portable ventilation) should be used to maintain proper air flow in the rooms, including airborne isolation rooms and protective environments. Infection preventionists should be aware of the potential for a burst of spores from the HVAC when it is brought back online. In addition, critical areas will need to be given time for the appropriate number of air exchanges per hour to occur before they can be put back into regular use.

Reference: CDC Guidelines for Environmental Infection Control in Health-Care Facilities, 2003

Q20: The director of facilities at your organization does not feel it is necessary to include infection prevention in the design phase of a construction project planned for your facility. Your response to him is:

a. Request that all blueprints and committee minutes be shared with you

b. Agree with him, but request that he call if questions arise

c. Ignore his comment and attend anyway

d. Explain why it is important for you to participate at all levels of the construction project

Reference: Study Guide Chapter 9 Practice Questions, question 11

Q20: The director of facilities at your organization does not feel it is necessary to include infection prevention in the design phase of a construction project planned for your facility. Your response to him is:

a. Request that all blueprints and committee minutes be shared with you

b. Agree with him, but request that he call if questions arise

c. Ignore his comment and attend anyway

d. Explain why it is important for you to participate at all levels of the construction project

Rationale: Issues frequently addressed in the design phase include budget space constraints, appropriate finishes, specific products with infectious implications, and applicable regulations, IP's should be prepared and support their position and recommendations with published citations whenever feasible, but particularly if a recommendation is not budget neutral.

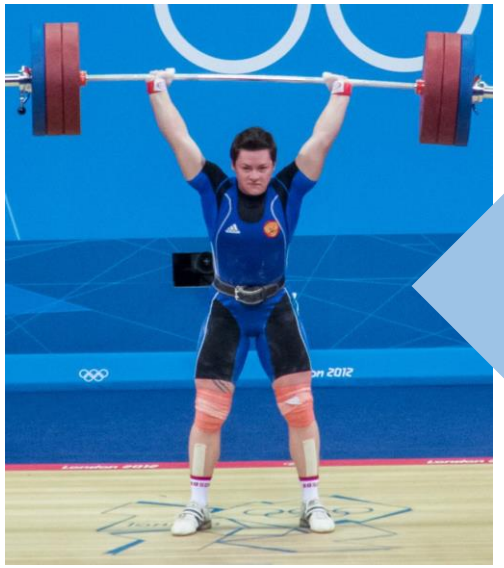
Reference: *APIC Text*, 4th edition, Chapter 116 Construction and Renovation

Fun Fact!! You made it to the end of this session and earned a fun fact. ☻

Awesome Random Useless Fun Fact…….

Caterpillars have about 4,000 muscles.

Photo Credit: [Tinkerbrad]



Natalya Zabolotnaya. (2022, December 11). In *Wikipedia*. https://en.wikipedia.org/wiki/Natalya_Zabolotnaya

People have around 650.

Reference: *365 Awesome Random Useless Facts, 2021. Fact 242. Activity Jam Books & Lisa Thompson; Las Vegas, NV 2022.*

Next Steps/Homework

- **Got Questions?** Join us for Office Hours every Thursday
  Thursday, February 16, 2023 @ 1:00 pm to 2:00 pm PT

- Complete the CIC ® Exam Readiness Survey

- **Missed a session or want to review the material again?**
  Access Padlet Resource Library

Thank you for your time today!!!

- Questions/Concerns/Discussion from Chat will be addressed during our upcoming office hours
- Practice Questions – Keep practicing and reviewing!
- Next Week's Agenda – **Environment of Care Part 2**

Contact Us

For more information on the ACE Program in Oregon, please contact:

Oregon Health Authority

- Meghan Millet, BSN, RN: meghan.a.millet@oha.oregon.gov
- Work Cell: 971-930-5725

Comagine Health

- Christina Dionisio-Martinez: cdionisio@comagine.org
- Infectionpreventionadvisor@comagine.org
- https://comagine.org/program/oregon-infection-prevention

Resources

Primary References:

Grota, P. ed. *APIC Text of Infection Control and Epidemiology*, 4th edition, Washington DC: Association for Professionals in Infection Control and Epidemiology, 2014. Also available online at http://text.apic.org (subscription required).

Heyman, D., ed. *Control of Communicable Diseases Manual*, 19th ed., Washington, DC: American Public Health Association; 2008.

Brooks, Kathy. *Ready References for Microbes*, 3rd ed., APIC; 2021.

Kulich P, Taylor D, eds. *The Infection Preventionist's Guide to the Lab*, APIC, Washington, DC, 2012.

Secondary References:

Current Recommendations of the Advisory Committee on Immunization Practices (ACIP).

Current guidelines, standards, and recommendations from CDC, APIC, SHEA, and Public Health Agency of Canada.

Pickering, Larry K, ed. *Red Book*, 29th ed., Elk Grove Village, IL: American Academy of Pediatrics; 2012.

- **All questions and solutions referenced throughout entirely of presentation from:** *Certification Study Guide,* 6th edition, United States of America: Association of Professionals in Infection Control and Epidemiology, 2015.
- **All pictures and/or graphics used in this presentation with permissions cited if necessary on individual slides with hyperlinks.**

CIC Exam Readiness Survey

- There are specific eligibility requirements for CIC ®
  - Get familiar with them now
  - Work to have requirements in place

Education

- Completed post-secondary education in a health-related field (i.e., RN, LPN, Associate's degree in nursing, BS in public health)

Role

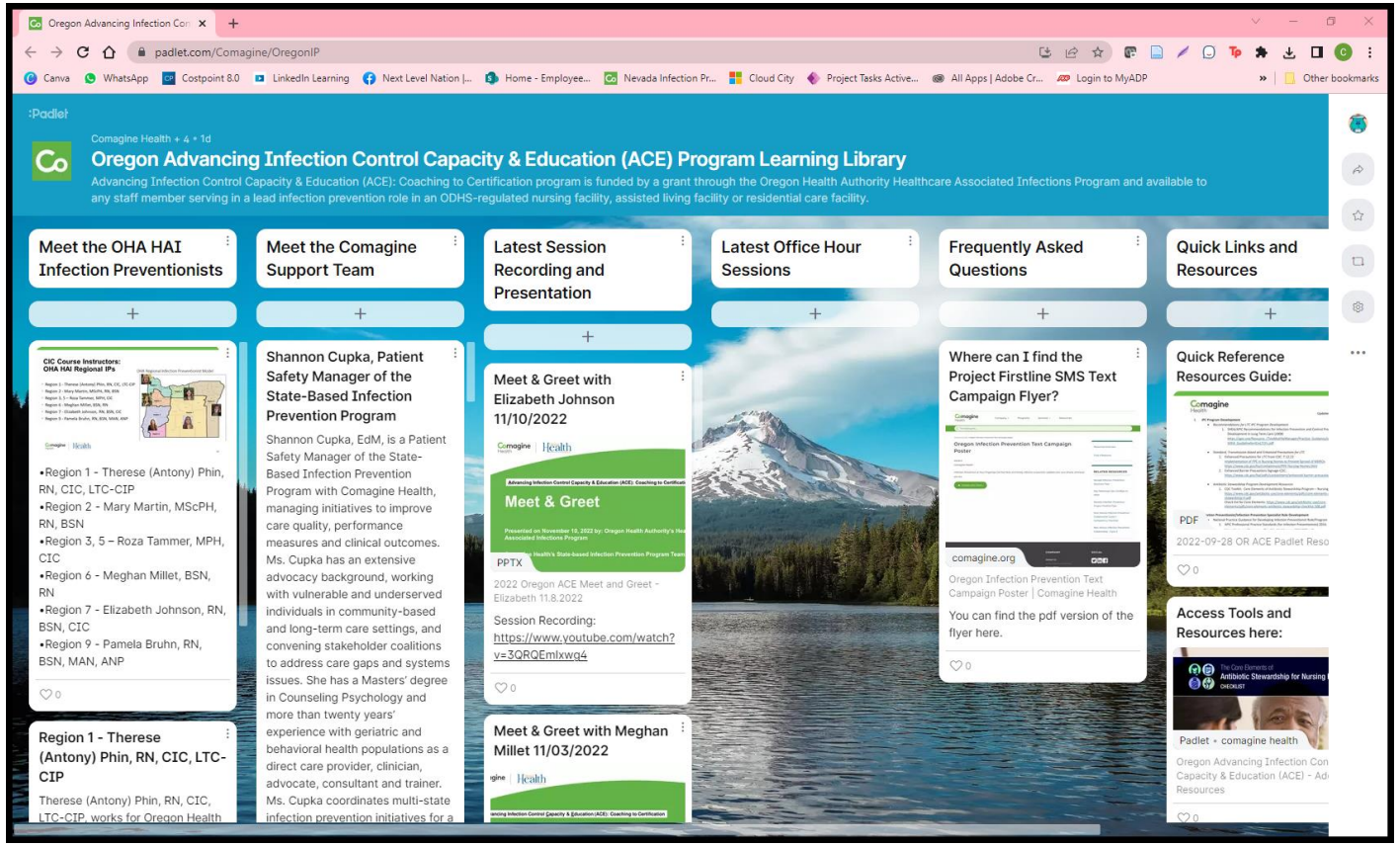
- Responsible for providing consultation to departments on IPCP elements, practices, processes and products used within health care facilities.

Experience

- Active engagement in infection prevention, determined by a current job description, for a minimum of:
- One-year FT employment/Two-years PT employment OR
- Completed 3,000 hours of IP work experience within previous 3 years

CIC Exam Readiness Assessment

Resources Library

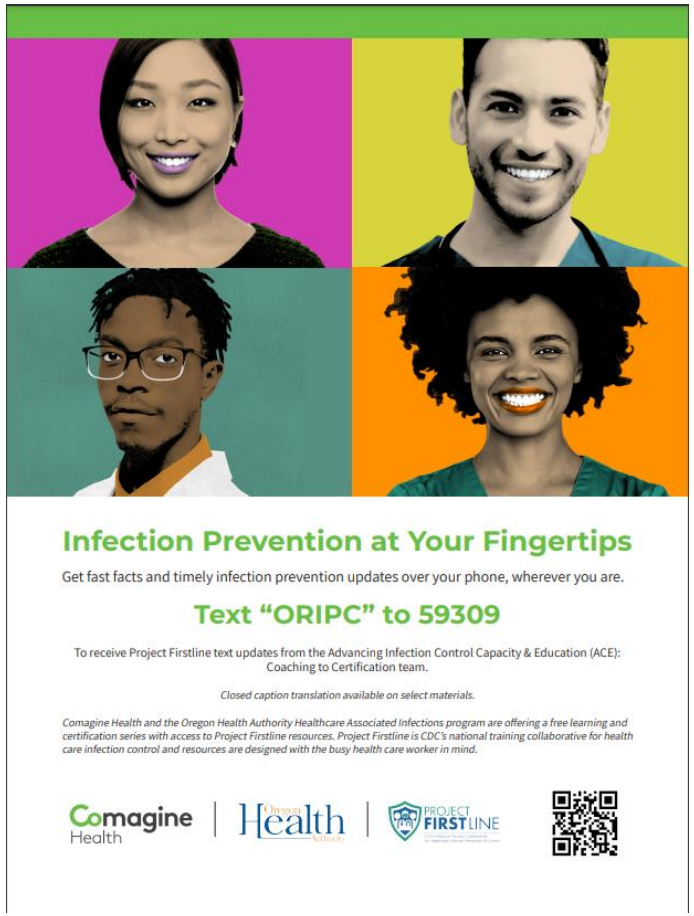


Padlet Link:
[OR ACE Program Padlet]

HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM
Public Health Division

Oregon Health Authority

Need Bite-Size Education for Your Team?
Join the Project Firstline Text Messaging Campaign



HEALTHCARE-ASSOCIATED INFECTIONS PROGRAM
Public Health Division

- Reaching frontline workers where and when they need it
- Every Tuesday – tips, brief education, links to videos and more
- Flyers available for your setting

Text "JoinORIPC" to 59309

Oregon Health Authority

How to Access the ACE Program Resources

- One-year APIC Membership (National and Local Chapter) and Infection Prevention Guide to Long-Term Care

  **One APIC membership and text will be provided per ODHS licensed nursing facility, assisted living facility or residential care facility*

- Open camera application
  - Hold over the QR Code
  - Follow link to brief survey
  - Provide designated Infection Prevention contact who will be receiving the membership and resource guide for your center