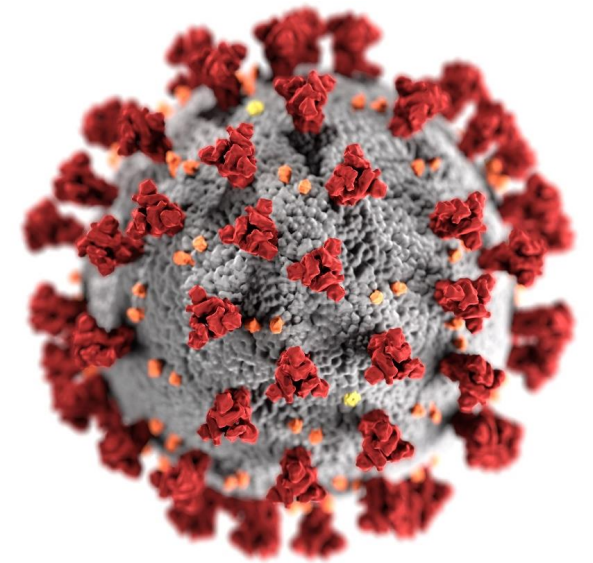


# Double gloves, gowns, or masks...

## OH MY!?!

# Lessons learned from IHS/Tribal Nation Tele-ICARS

LCDR Matthew Ellis, IHS  
Zeshan Chisty, CDC  
Erin Whitehouse, CDC



For more information: [www.cdc.gov/COVID19](https://www.cdc.gov/COVID19)

# Disclosures

None of the presenters have anything to disclose.

# Objectives

- Describe the telephone infection prevention and control assessments (tele-ICAR) collaboration between CDC, IHS, and Tribal Nations.
- Identify common breaches in Infection Prevention and Control practices across facilities.
- Understand CDC recommendations for usage of personal protective equipment in healthcare settings.

# Telephone Infection Prevention and Control – CDC/IHS Collaboration

## Infection Prevention and Control Assessment Tool for Nursing Homes Preparing for COVID-19

This is an infection control assessment and response tool (ICAR) that can be used to help nursing homes prepare for coronavirus disease 2019 (COVID-19). This tool may also contain content relevant for assisted living facilities.

The items assessed support the key strategies of:

- Keeping COVID-19 out of the facility
- Identifying infections as early as possible
- Preventing spread of COVID-19 in the facility
- Assessing and optimizing personal protective equipment (PPE) supplies
- Identifying and managing severe illness in residents with COVID-19

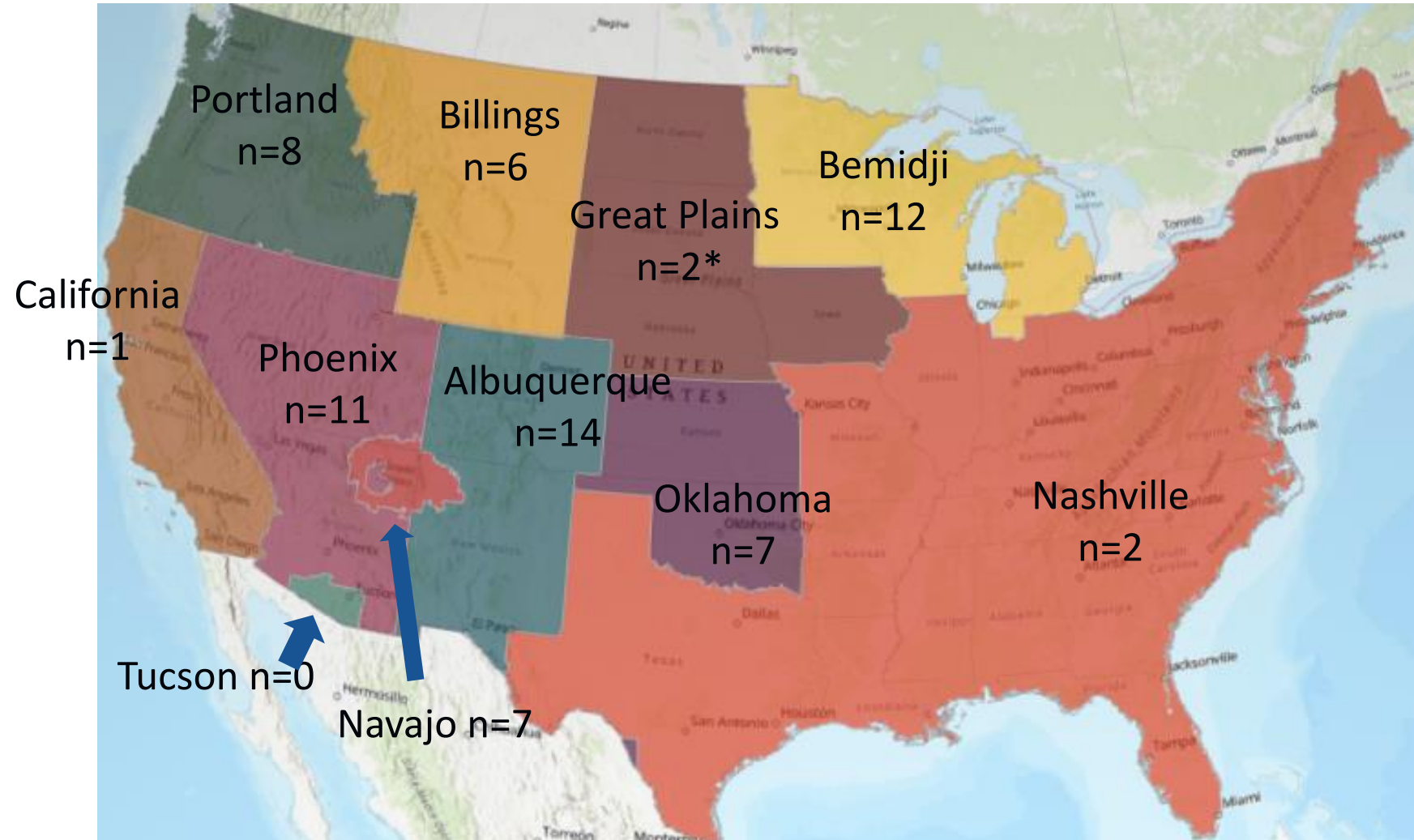
The areas assessed include:

- Visitor restriction
- Education, monitoring, and screening of healthcare personnel<sup>1</sup> (HCP)
- Education, monitoring, and screening of residents
- Ensuring availability of PPE and other supplies
- Ensuring adherence to recommended infection prevention and control (IPC) practices
- Communicating with the health department and other healthcare facilities

Findings from the assessment can be used to target specific IPC preparedness activities that nursing homes can immediately focus on while continuing to keep their residents and HCP safe.

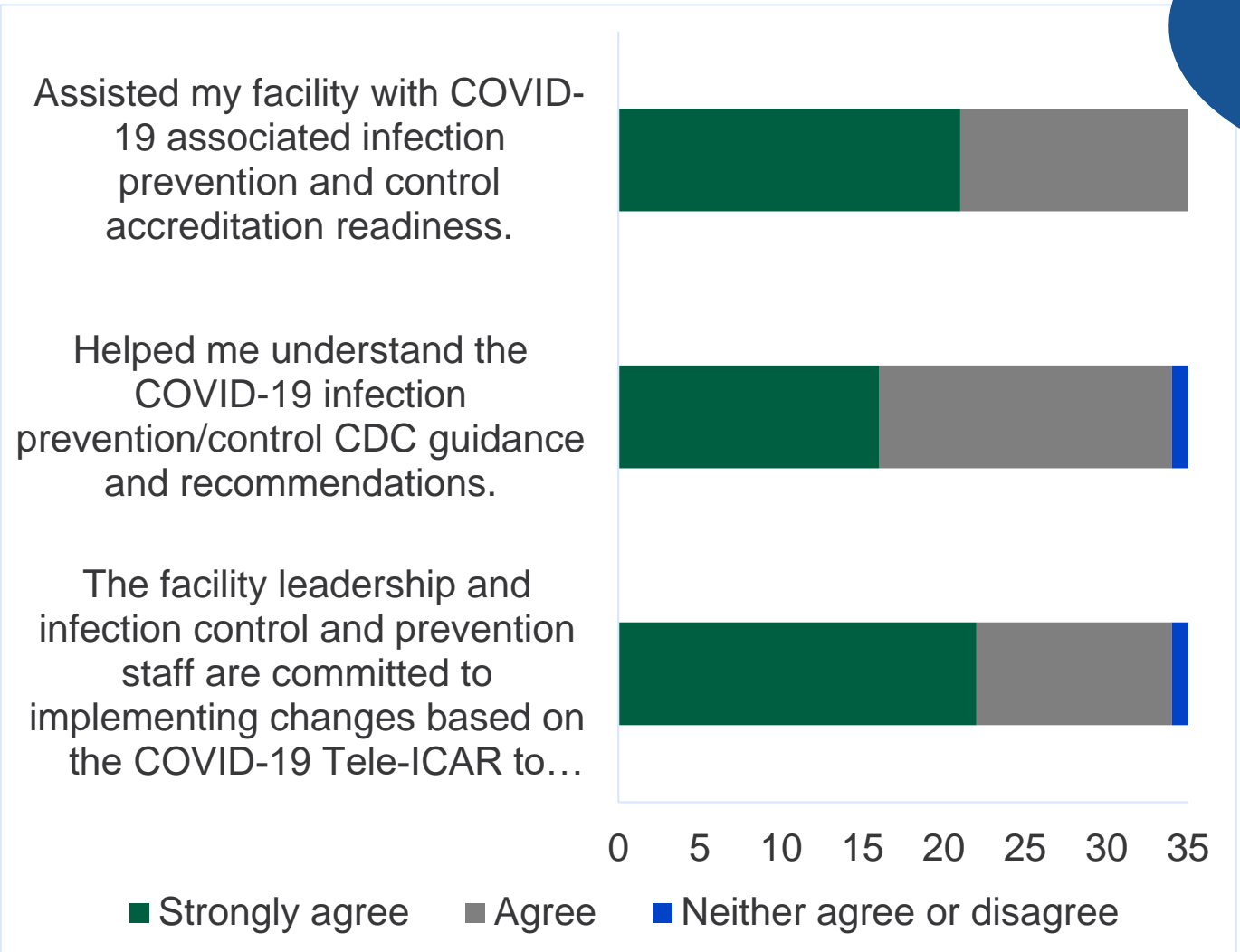
# Telephone Infection Prevention and Control – CDC/IHS Collaboration

**Total IHS/Tribal N=72**  
Alaska n=0 (0%)  
Albuquerque n=14 (19%)  
Bemidji n=12 (17%)  
Billings n=6 (8%)  
California n=1(1%)  
Great Plains n=2 (3%)  
Nashville n=2 (3%)  
Navajo n=7 (10%)  
Oklahoma n=7 (10%)  
Phoenix n=11 (15%)  
Portland n=10 (14%)  
Tucson n=0 (0%)



\*one ICAR was conducted with both on-site and remote assistance

# IHS Facility Feedback on tele-ICARS



“Expert advice in a comfortable, interactive, and individualized manner”

“They listened to us and took our situation into consideration. They did not try to make recommendations that we felt we could not uphold. I overall felt like they genuinely cared and were helping us help ourselves - not just laying down the law and demanding us to change stuff.”

“‘just-in-time’ national expert consultation that is readily accessible at the local level for small to medium healthcare facilities. They asked questions that made our team think through the process and allowed us to see the process from a different perspective”

# Common Gaps Identified by Tele-ICAR

- PPE use & optimization strategies
- Cleaning & disinfecting procedures
- Auditing of hand hygiene, PPE, and Environmental Services (EVS)
- Staff & patient screening

**Healthcare Personnel (HCP):** HCP refers to all paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials, including body substances (e.g., blood, tissue, and specific body fluids); contaminated medical supplies, devices, and equipment; contaminated environmental surfaces; or contaminated air.

# PPE Use & Optimization



# Personal Protective Equipment (PPE) – Universal Use

- **What minimum PPE is required for healthcare personal working in healthcare facilities ?**
- **Answer:**
  - Moderate to substantial community transmission = eye protection & medical facemask
  - Minimal to no community transmission = facemask
  - This includes all HCP interacting with patients or in patient care areas such as EVS, screeners, registration, clinicians, etc.

# PPE – Improving mask fit

- I have heard we should be wearing double masks?
- Answer:
  - If a good fit is achieved using a single medical facemask, additional approaches like adding layers to achieve a better fit might not be necessary.
  - CDC has recommended several ways to [improve the fit and filtration](#) of masks.

[Knot and tuck instructions:](https://youtu.be/UANi8Cc71A0)  
<https://youtu.be/UANi8Cc71A0>



# PPE – N95

- Can I wear my facemask under my N95?
- Answer:
  - No. This would interfere with the tight-fit needed for a respirator.

## When you put on a disposable respirator

Position your respirator correctly and check the seal to protect yourself from COVID-19.



Cup the respirator in your hand. Hold the respirator under your chin with the nose piece up. The top strap (on single or double strap respirators) goes over and rests at the top back of your head. The bottom strap is positioned around the neck and below the ears.



Place your fingertips from both hands at the top of the metal nose clip (if present). Slide fingertips down both sides of the metal strip to mold the nose area to the shape of your nose.



Place both hands over the respirator, take a quick breath in to check the seal. Breathe out. If you feel a leak when breathing in or breathing out, there is not a proper seal.



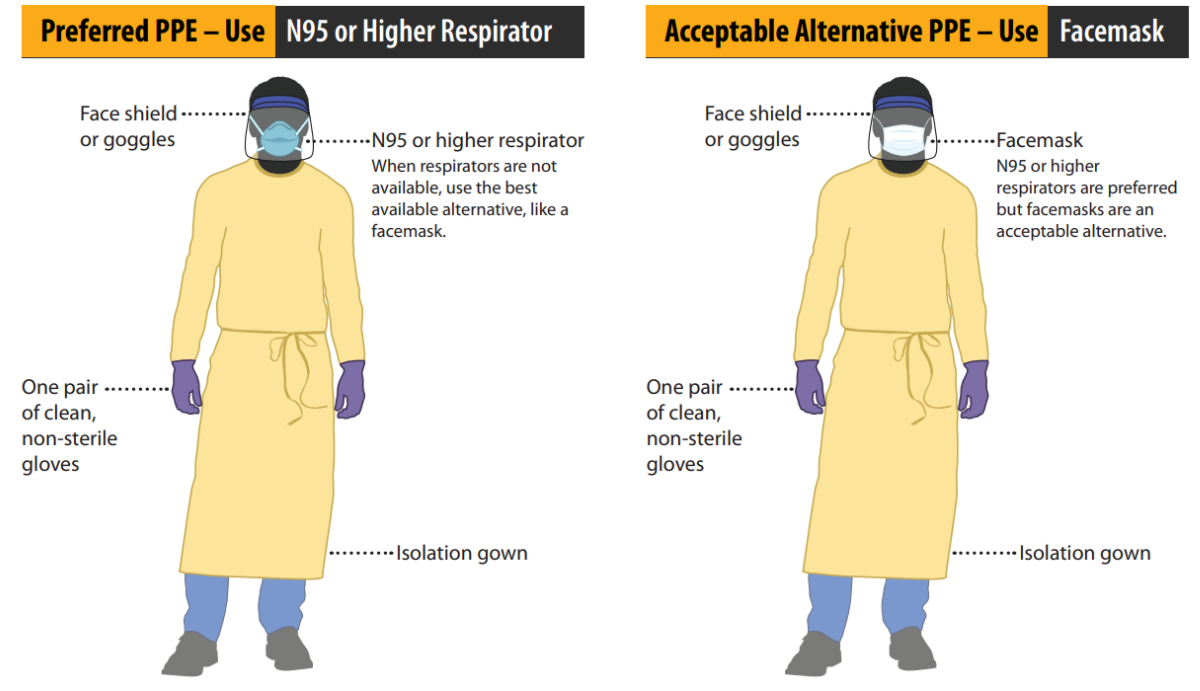
Select other PPE items that do not interfere with the fit or performance of your respirator.



Do not allow facial hair, jewelry, glasses, clothing, or anything else to prevent proper placement or to come between your face and the respirator.

# Personal Protective Equipment (PPE)

- **What PPE is required for the care of someone with suspected or confirmed COVID-19?**
- **Answer:**
  - NIOSH-approved N95 or higher-level respirator (or facemask if a respirator is not available)
  - Gown
  - Gloves
  - Eye Protection



<https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>

# PPE – Eye Protection

- What is acceptable for eye protection?
- Answer:
  - Goggles **or** a face shield that covers the front and sides of the face.
  - Protective eyewear (e.g., safety glasses, trauma glasses) with gaps between glasses and the face likely do not protect eyes from all splashes and sprays.

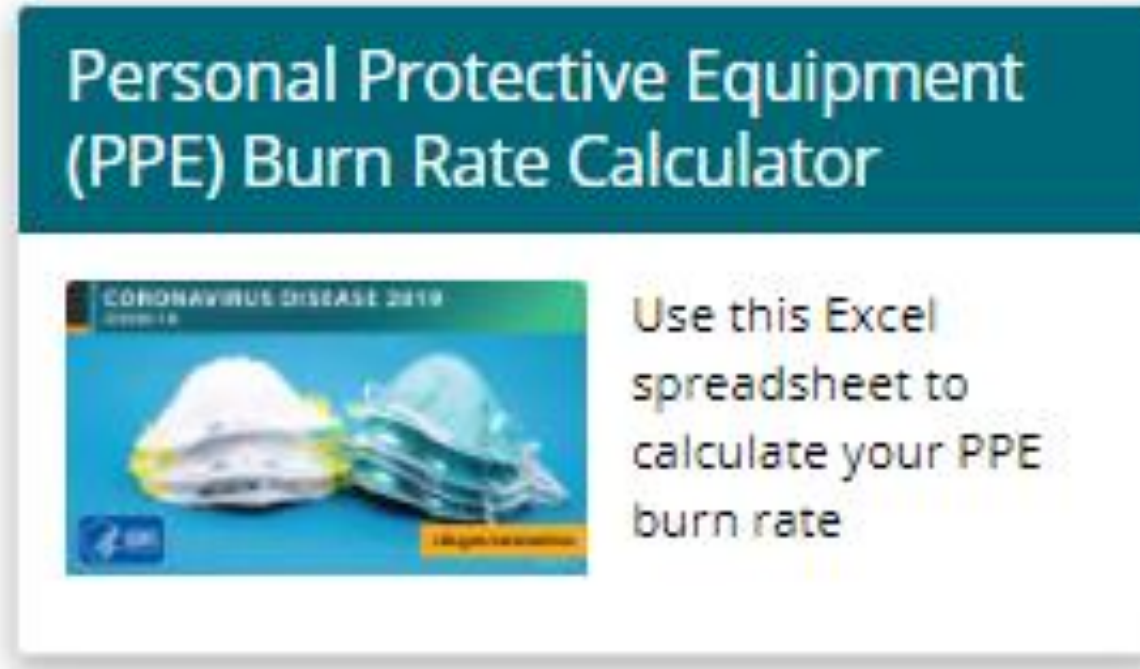


# PPE – Eye Protection

- **What is the correct way to reprocess eye protection?**
- **Answer:**
  - Follow manufacturer instructions for cleaning and disinfection when available.
  - If unavailable, such as for single use disposable face shields, consider:
    - Cleaning and disinfecting with an EPA registered List-N product
    - Reprocessing whenever it is doffed, soiled or difficult to see through
    - Dedicating to one HCP
    - This should be done in a designated area, and reprocessed PPE should be stored in clean area.

# PPE – Optimization Strategies

- What is a burn rate calculator and how do I use it?



The image shows a screenshot of a webpage titled "Personal Protective Equipment (PPE) Burn Rate Calculator". The page features a dark teal header with the title in white text. Below the header, there is a white box containing a small image of two N95 respirators (one white, one blue) and a text box that reads: "Use this Excel spreadsheet to calculate your PPE burn rate". The image also includes a small logo for "CORONAVIRUS DISEASE 2019" and a small blue icon in the bottom left corner.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html>

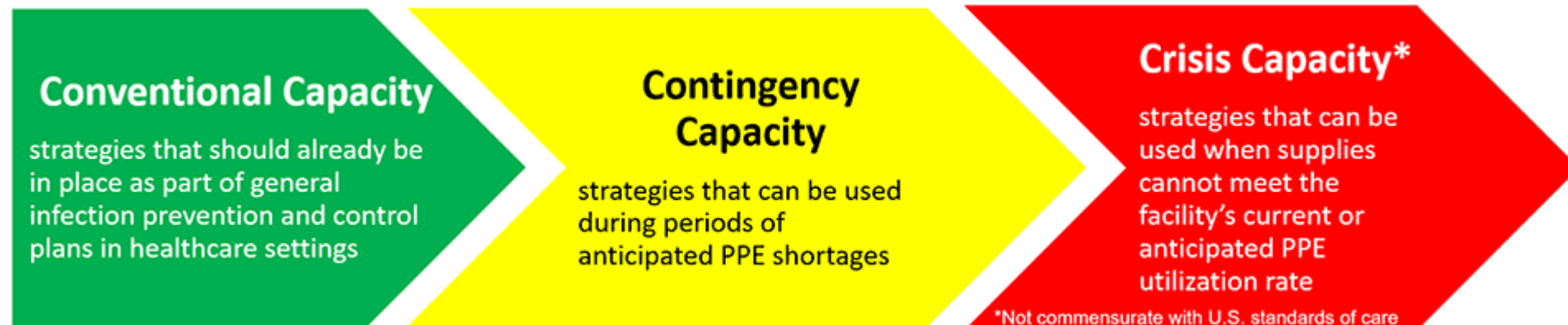
# PPE – Optimization Strategies

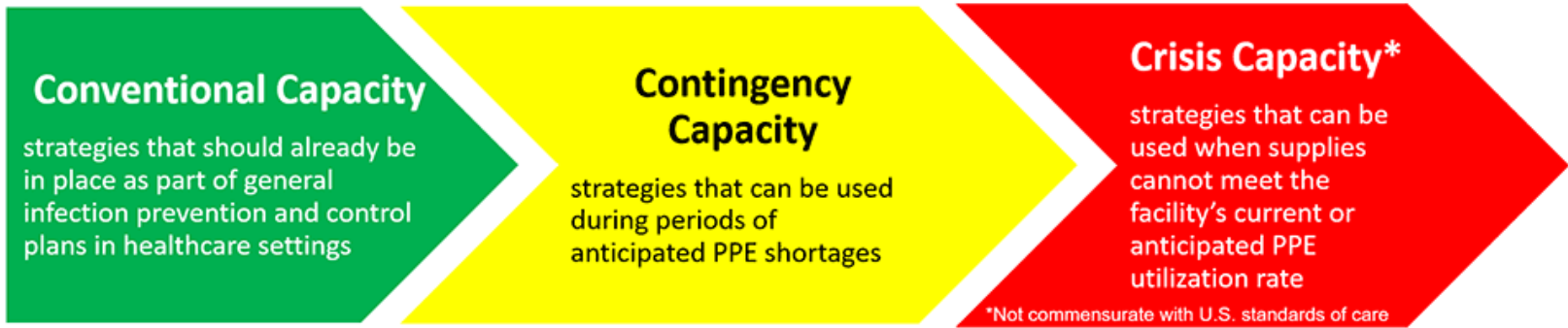
- **What is extended use of PPE?**
- **Answer:**
  - Practice of wearing the same PPE for repeated close contact encounters with several different patients, without removing the PPE between patient encounters when patients are housed in the **same** location and known to be infected with the **same** infectious disease (e.g., COVID-19 inpatient unit).
- **What is re-use of PPE?**
- **Answer:**
  - Practice of using the same PPE for multiple encounters with patients but removing it after each encounter.



# PPE – Optimization Strategies

- I am running low on PPE, what should I do?
- Answer:
  - Determine your current inventory and calculate your burn rate
  - Consider implementing optimization strategies
  - These should be implemented in a sequential order
  - As PPE availability returns to normal, promptly resume standard practices





**Conventional Capacity**  
 strategies that should already be in place as part of general infection prevention and control plans in healthcare settings

**Contingency Capacity**  
 strategies that can be used during periods of anticipated PPE shortages

**Crisis Capacity\***  
 strategies that can be used when supplies cannot meet the facility's current or anticipated PPE utilization rate  
\*Not commensurate with U.S. standards of care

- Use isolation gown alternatives such as reusable gowns
- Decrease length of stay for medically stable patients with COVID-19
- Consider use of coveralls
- Use gowns or coveralls conforming to international standards.
- **Prioritize** gowns for higher risk activities
- Cancel elective and non-urgent procedures where gowns are typically used.
- Extended use of isolation gowns
- Consider using last resort gown alternatives (e.g., washable patient gowns)
- Re-use of isolation gowns is not recommended (risks of transmission among HCP and patients likely outweigh any potential benefits)

GOWNS



# PPE – N95 respirators

- **Who needs an N95 respirator?**
- **Answer:** HCP who enter the room of a patient suspected or confirmed with SARS-CoV-2 or other airborne infectious agents.
  
- **Do we need to fit test HCP?**
- **Answer:** HCP are required to be medically cleared and fit tested if using respirators and trained in their proper use, safe removal and disposal.
  - If multiple models of respirators are used, organizations are required to fit test HCP to each specific model.

# PPE – N95 respirators

- **How many times can I reuse a respirator?**
- **Answer:**
  - If no manufacturer guidance is available, then **1 respirator = 5 uses (5 don/doff)**.
  - Discard any respirator that is obviously soiled, damaged or becomes hard to breathe through.
  - Always perform a seal check.
  - Store respirators between uses so that they do not become damaged or deformed.
  - Healthcare facilities should provide HCP with clearly written procedures.

# PPE - Gowns

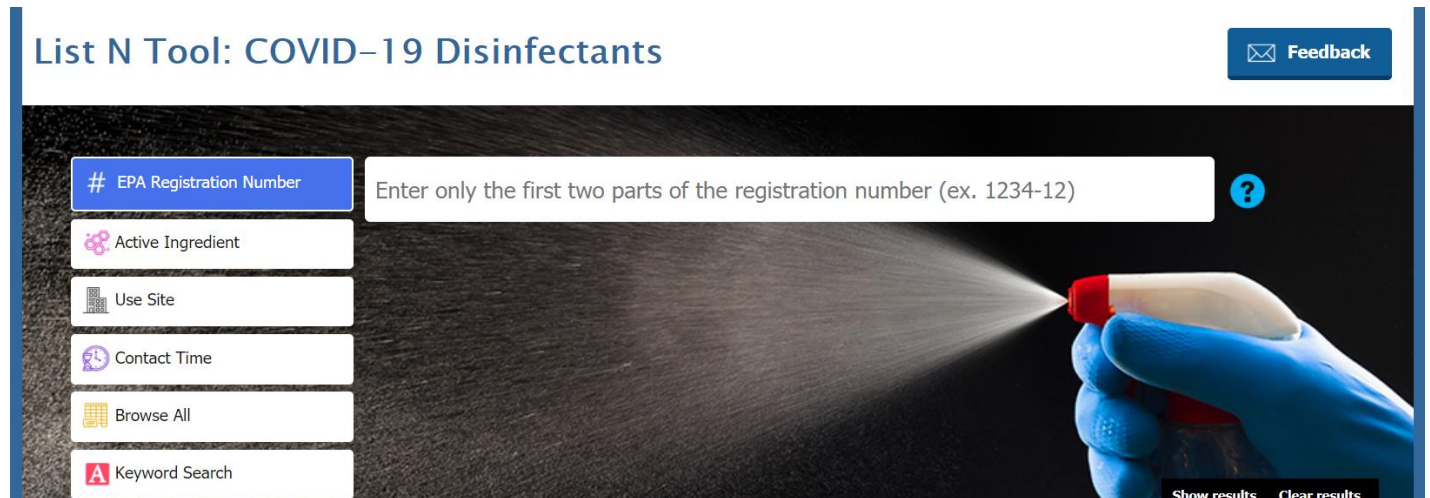
- **Who should wear gowns?**
- **Answer:** HCP who enter the room of a patient suspected or confirmed with SARS-CoV-2 or other infectious agents transmitted by contact (such as *Clostridioides difficile*, *Candida auris*).
- **Can we reuse gowns?**
- **Answer:** Re-use of gowns is **not recommended** and is the last resort in a crisis gown shortage. Disposable gowns generally should not be re-used, and reusable gowns should not be reused before laundering, because reuse poses risks for possible transmission among HCP and patients that likely outweigh any potential benefits.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/isolation-gowns.html>

# Cleaning and Disinfecting

# Cleaning & Disinfection

- What disinfectant should I be using for high touch surfaces? Shared Medical Equipment? Terminal Cleaning?
- Answer:
  - Refer to List N on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.



<https://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19>

EPA website demonstration:

# Cleaning & Disinfection

- Who should be involved in purchasing new cleaning and disinfecting products?
- Answer:
  - The Infection Control Committee or Infection Preventionist should be consulted when new products related to infection prevention (e.g., cleaning and disinfecting products) will be purchased or introduced to ensure implementation of appropriate staff education.



# Cleaning & Disinfection

- **Do we need to delineate who cleans what in our facility?**
- **Answer:**
  - Yes, clearly define responsibilities for the cleaning and disinfection among staff (e.g., clinical, EVS).
  - Ensure staff involved in cleaning and disinfection are aware of their responsibilities and appropriately trained.

# Cleaning & Disinfection

- What does “Contact” or “Dwell” time mean?
- Answer:
  - It’s the amount of time the surface should be visibly wet.
  - Use disinfectants only at the concentrations specified in the label directions.

EPA Registration Number	Active Ingredient(s)	Product Name	Company	Follow the disinfection directions and preparation for the following virus	Contact Time (in minutes)	Formulation Type	Surface Type	Use Site	Emerging Viral Pathogen Claim?
10190-14	Quaternary ammonium	Penetone XF-7117	Penetone Corp	Porcine circovirus	10	Dilutable	Hard Nonporous (HN)	Institutional	Yes
10324-105	Quaternary ammonium	Maquat 128-PD	Mason Chemical Company	Human coronavirus	10	Dilutable	Hard Nonporous (HN)	Healthcare; Institutional; Residential	No

# Medical Waste

- How should I handle medical waste?
- Answer:
  - Medical waste related to the care or testing of patients with suspect or confirmed SARS-CoV-2 is typically not considered biohazard waste unless it is grossly contaminated with blood or other body fluids; it can be disposed of according to your procedures for routine medical waste according to local regulations.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html#Waste-Management>

# Auditing of IPC Practices

# Auditing of IPC Practices

- **What is auditing and what are my options for auditing?**
- **Answer:**
  - Auditing is defined as monitoring and documenting healthcare personnel adherence.
  - Observations can be used to calculate adherence rate to monitor over time.
  - Consider covert observation (“secret shopper”) to determine adherence to hand hygiene and PPE practices.

<https://www.cdc.gov/infectioncontrol/pdf/strive/PPE104-508.pdf>

# Auditing of IPC Practices

- What are options for auditing Environmental Services (EVS) practices?
- Answer:
  - Direct practice observation
  - Fluorescent markers
  - ATP bioluminescence



# Auditing of IPC Practices

- **What if I don't have capacity to institute an auditing program right now?**
- **Answer:**
  - Work with your IPC committee and enlist other staff (not just the IP) to conduct auditing exercises.
  - Engage your IHS Area Office for technical assistance and resources.
  - Consider inclusion of HCP hand hygiene practices in patient satisfaction surveys.
  - Cultivate a “just culture” of accountability so all HCP work together to ensure that everyone is protected.

# HCP and Patient Screening



# Screening

- **Who should be screened entering my facility?**
- **Answer:**
  - All healthcare personnel, visitors, and patients; anyone entering the building.

# Screening

- **How should they be screened?**
- **Answer:**
  - Assess everyone for symptoms of COVID-19, exposures to others, and using appropriate source control.
  - Consider individual screening on arrival at the facility or implementation an electronic monitoring system completed prior to arrival.

# Screening

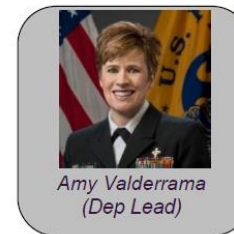
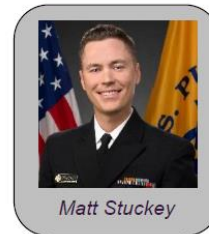
- **Can I screen my staff at my unit (e.g., radiology)?**
- **Answer:**
  - Your facility should screen prior to entry so that anyone with signs and symptoms of COVID-19 does not enter the facility.

# My facility has questions, who do I ask?



[Matthew.Ellis@ihs.gov](mailto:Matthew.Ellis@ihs.gov)

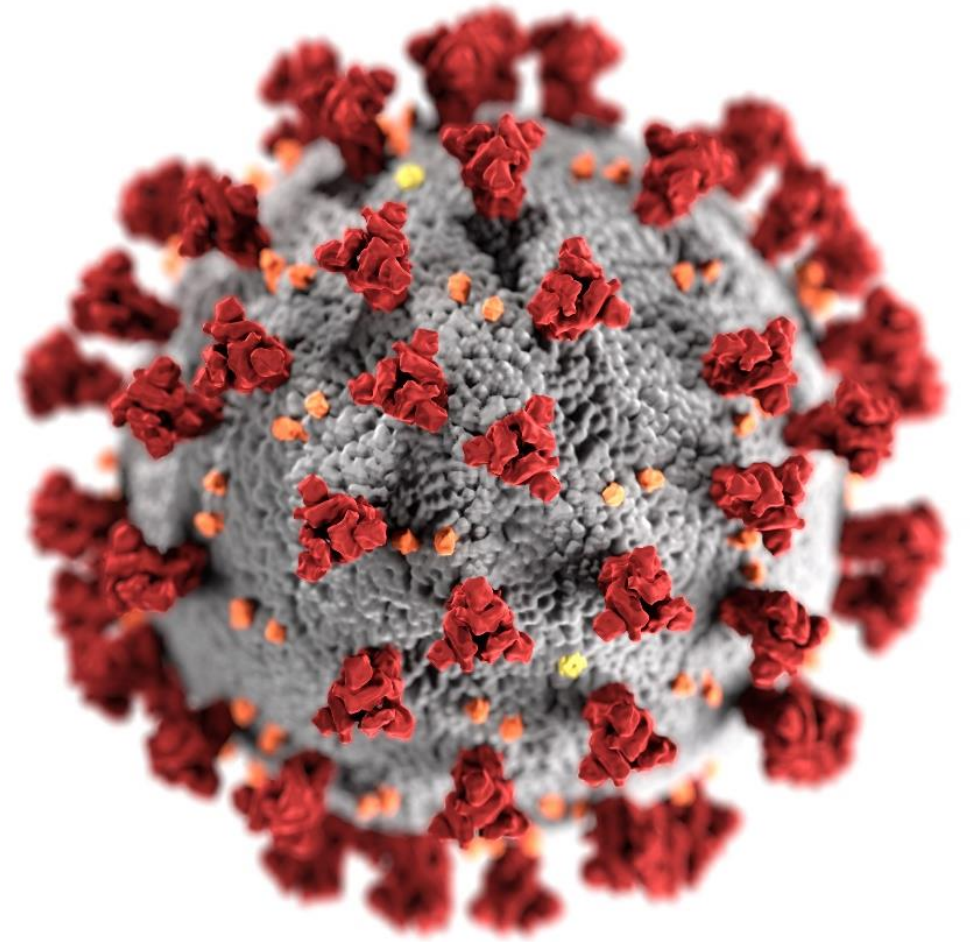
## DHQP Consultation and Training Team (Oct, 2020)



# Resources

- **CDC IPC recommendations:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html>
- **CDC IPC FAQs:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html#Infection-Control>
- **Text Illness Monitoring System:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/TIM.html>
- **Using PPE:** [Using Personal Protective Equipment \(PPE\) | CDC](#)
- **PPE Burn Calculator:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/burn-calculator.html>
- **PPE requirements:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>
- **CDC PPE optimization strategies:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>
- **CDC Cleaning & Disinfecting FAQs:** <https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html#Cleaning-and-Disinfection-of-Environmental-Surfaces>
- **EVS auditing resources:** <https://www.cdc.gov/hai/toolkits/appendices-evaluating-enviro-cleaning.html>
- **PPE/Hand hygiene auditing resource:** <https://www.cdc.gov/infectioncontrol/pdf/strive/PPE104-508.pdf>
- **EPA List N:** <https://www.epa.gov/pesticide-registration/list-n-disinfectants-coronavirus-covid-19>
- **IPC Training and Education:** [Training and Education Resources | Infection Control | CDC](#)
- **Hand Hygiene:** [Hand Hygiene in Healthcare Settings | CDC](#)
- **HICPAC guidelines:** [Guidelines Library | Infection Control | CDC](#)
- **Project Firstline:** <https://www.cdc.gov/infectioncontrol/projectfirstline/index.html>

# Questions?



For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

# Additional FAQs

# Personal Protective Equipment (PPE) – Universal Use

- What minimum PPE is required for healthcare personnel working in healthcare facilities ?
- Answer:
  - In areas with ***moderate to substantial community transmission***, HCP are more likely to encounter asymptomatic or pre-symptomatic patients with SARS-CoV-2 infection. HCP should wear eye protection in addition to their facemask to ensure the eyes, nose, and mouth are all protected from exposure to respiratory secretions during any patient care encounters. This includes EVS, screeners, and registration staff working in areas where they could encounter patients.
  - **In areas with *minimal to no community transmission***, universal use of a facemask for source control is recommended for HCP.



# PPE – N95 respirators

- My N95 respirator has an exhalation valve, is that okay?
- Answer:
  - It may not be effective for source control and not prevent the virus spreading from the wearer to others.
    - Wear a respirator **without** an exhalation valve when both source control and respiratory protection are required.
    - If only a respirator with an exhalation valve is available and source control is needed, cover the exhalation valve with a surgical mask, procedure mask, or a cloth face covering that does not interfere with the respirator fit.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirator-use-faq.html>

# PPE – Eye Protection

- **What is the correct way to reprocessing eye protection?**

- **Answer:**

- Follow manufacturer instructions for cleaning and disinfection when available.
- If unavailable, such as for single use disposable face shields, consider:
  - While wearing gloves, carefully wipe the *inside, followed by the outside* of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe.
  - Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
  - Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
  - Fully dry (air dry or use clean absorbent towels).
  - Remove gloves and perform hand hygiene.
- This should be done in a designated area, and reprocessed PPE should be stored in clean area.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/eye-protection.html>

# PPE - Gowns

- Can you use cloth gowns?

- Answer:

- The use of reusable (e.g., cloth) gowns is now considered a conventional capacity strategy.
- Reusable gowns should be removed and laundered after each patient encounter like a disposable gown should be removed and discarded.
- Gowns made of these fabrics can be safely laundered after each use according to [routine procedures](#) and reused.
- Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles.

# PPE

- **What PPE should HCP when going home?**
- **Answer:**
  - **None**, gowns and gloves should be discarded.
  - Eye protection should be discarded or if reprocessed – stored in a clean area.
  - HCP should remove their respirator or facemask, perform hand hygiene, and put on their cloth face covering when leaving the facility at the end of their shift.

# Cleaning & Disinfection

- I can't tell if the product I'm interested in is on List N or not. Can you help me?
- Answer:
  - Disinfectant products may be marketed and sold under different brand and product names. To determine whether EPA expects a given product to kill SARS-CoV-2, the coronavirus that causes COVID-19, you need to determine whether its **primary registration number** (the first two parts e.g. 1234-12) is on this list.

<https://www.epa.gov/coronavirus/i-cant-tell-if-product-im-interested-list-or-not-can-you-help-me>

# Hand Hygiene

- Which is preferred soap & water or alcohol-based sanitizer?
- Answer:
  - Unless hands are visibly soiled, an alcohol-based hand rub is preferred over soap and water in most clinical situations due to evidence of better compliance compared to soap and water. Hand rubs are generally less irritating to hands and are effective in the absence of a sink.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/hand-hygiene.html>

# Alcohol Based Hand Rub

- **Can I refill hand sanitizer containers?**

- **Answer:**

- The safety of refilling or “topping off” containers of ABHS has not been well studied. ABHS is an FDA regulated over-the counter drug and should be stored and dispensed in a manner that ensures safety and effectiveness. Potential safety risks that may be associated with refilling or “topping off” containers of ABHS include inadvertent contamination, reduced effectiveness from the evaporation of alcohol, and irritant effects from mixing formulations. Therefore, refilling or “topping off” ABHS dispensers should only be considered in accordance with manufacturer’s guidance and FDA regulations. Refilling or “topping off” containers of liquid soap has been associated with outbreaks of pathogenic bacteria. The 2002 Guidelines for Hand Hygiene in Healthcare Settings recommends that soap should not be added to partially empty soap dispensers.

<https://www.cdc.gov/handhygiene/providers/index.html>

# Auditing of IPC Practices

- What are high touch areas where I should focus my auditing?
- Answer:

## CDC Environmental Checklist for Monitoring Terminal Cleaning<sup>1</sup>

<b>Date:</b>	
<b>Unit:</b>	
<b>Room Number:</b>	
<b>Initials of ES staff (optional):<sup>2</sup></b>	

Evaluate the following priority sites for each patient room:

<b>High-touch Room Surfaces<sup>3</sup></b>	<b>Cleaned</b>	<b>Not Cleaned</b>	<b>Not Present in Room</b>
Bed rails / controls			
Tray table			
IV pole (grab area)			
Call box / button			
Telephone			
Bedside table handle			
Chair			
Room sink			
Room light switch			
Room inner door knob			
Bathroom inner door knob / plate			



# Screening

- **What PPE should people who are screening wear?**
- **Answer:**
  - In areas with ***moderate to substantial community transmission***, HCP are more likely to encounter asymptomatic or pre-symptomatic patients with SARS-CoV-2 infection. HCP should wear eye protection in addition to their facemask to ensure the eyes, nose, and mouth are all protected from exposure to respiratory secretions during any patient care encounters. This includes EVS, screeners, and registration staff working in areas where they could encounter patients.
  - **In areas with *minimal to no community transmission***, universal use of a facemask for source control is recommended for HCP.

## Return to work:

- **Should we test HCP before returning to work?**
- **Answer:**
  - No, a symptom-based strategy is preferred. A test-based strategy is no longer recommended because, in the majority of cases, it results in excluding from work HCP who continue to shed detectable SARS-CoV-2 RNA but are no longer infectious.

# What about additional IPC training for my facility?



<https://www.cdc.gov/infectioncontrol/projectfirstline/index.html>