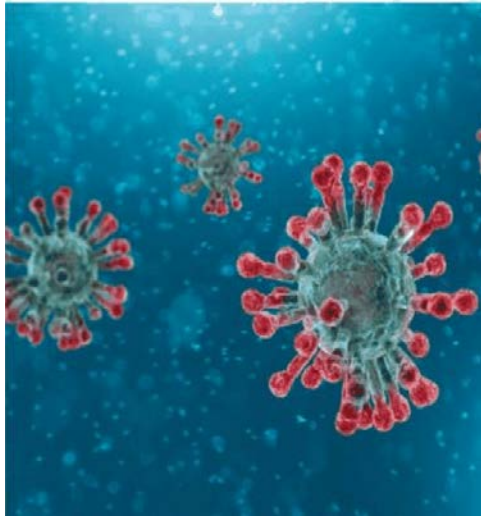


# Preparing Hospitals for COVID-19



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**Director, Infection Prevention and Control**
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**Associate Director, Standards Interpretation Group**
- **Beverly M. Belton, MSN, RN**  
**Field Director Surveyor Management and Support**  
**Division of Accreditation & Certification Operations**

# Intended Audience

This webinar is being presented to provide information that may be helpful to Hospitals.

Topics covered:

- Epidemiology and symptoms of Coronavirus
- Prevention strategies for Hospitals

# Acknowledgement

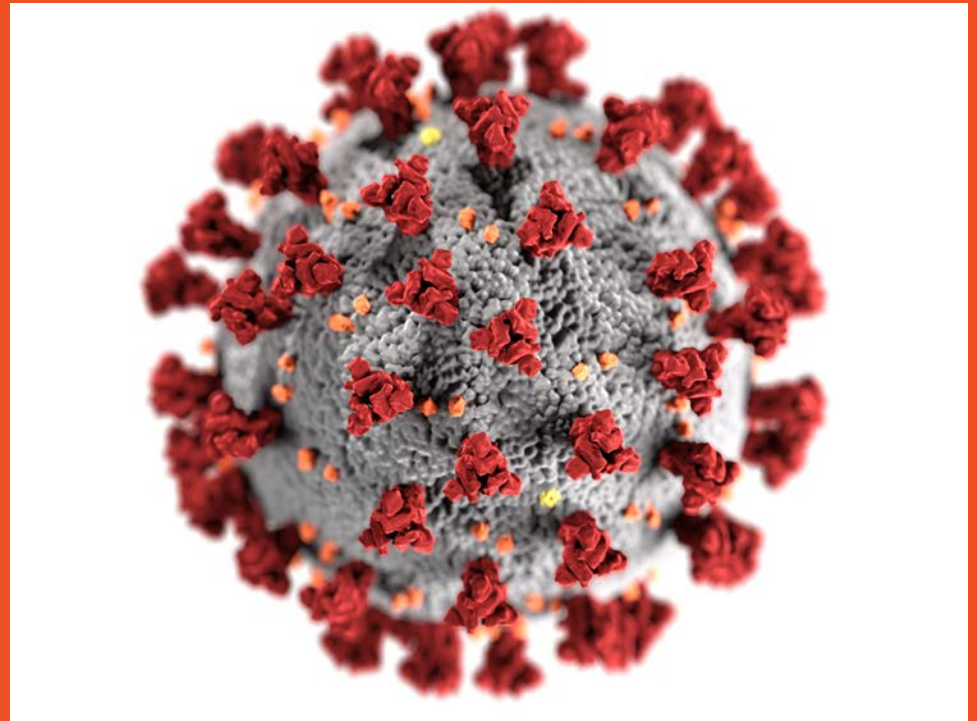
# The Joint Commission Disclaimer

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These slides are only meant to be cue points, which were expounded upon verbally by the original presenter and are not meant to be comprehensive statements of standards interpretation or represent all the content of the presentation. Thus, care should be exercised in interpreting Joint Commission requirements based solely on the content of these slides.

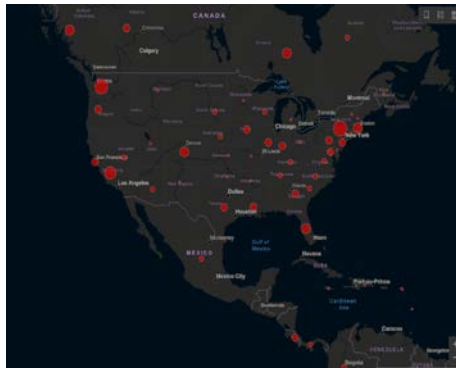
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# COVID-19



# Progression of Cases

3/11/2020



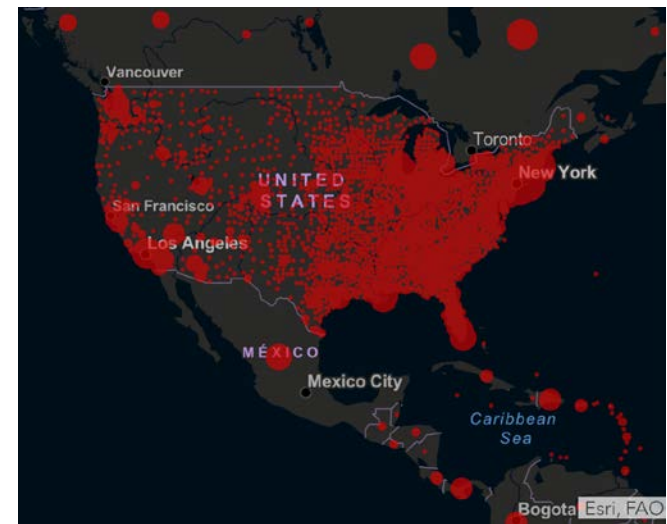
Total 126,136 Cases  
US 1312 Cases

3/30/2020



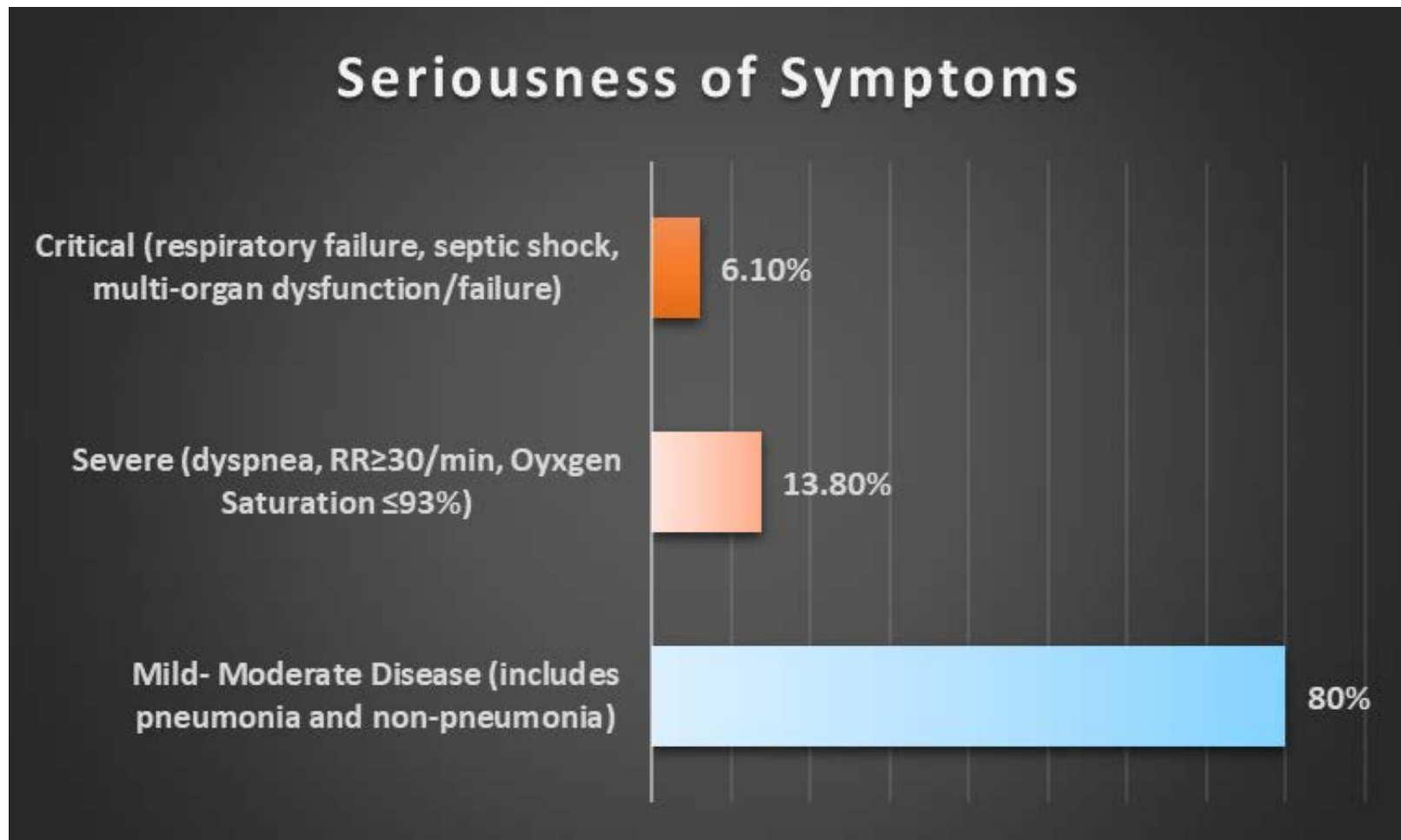
Total 785,709 Cases  
US 164,274 Cases

4/12/2020



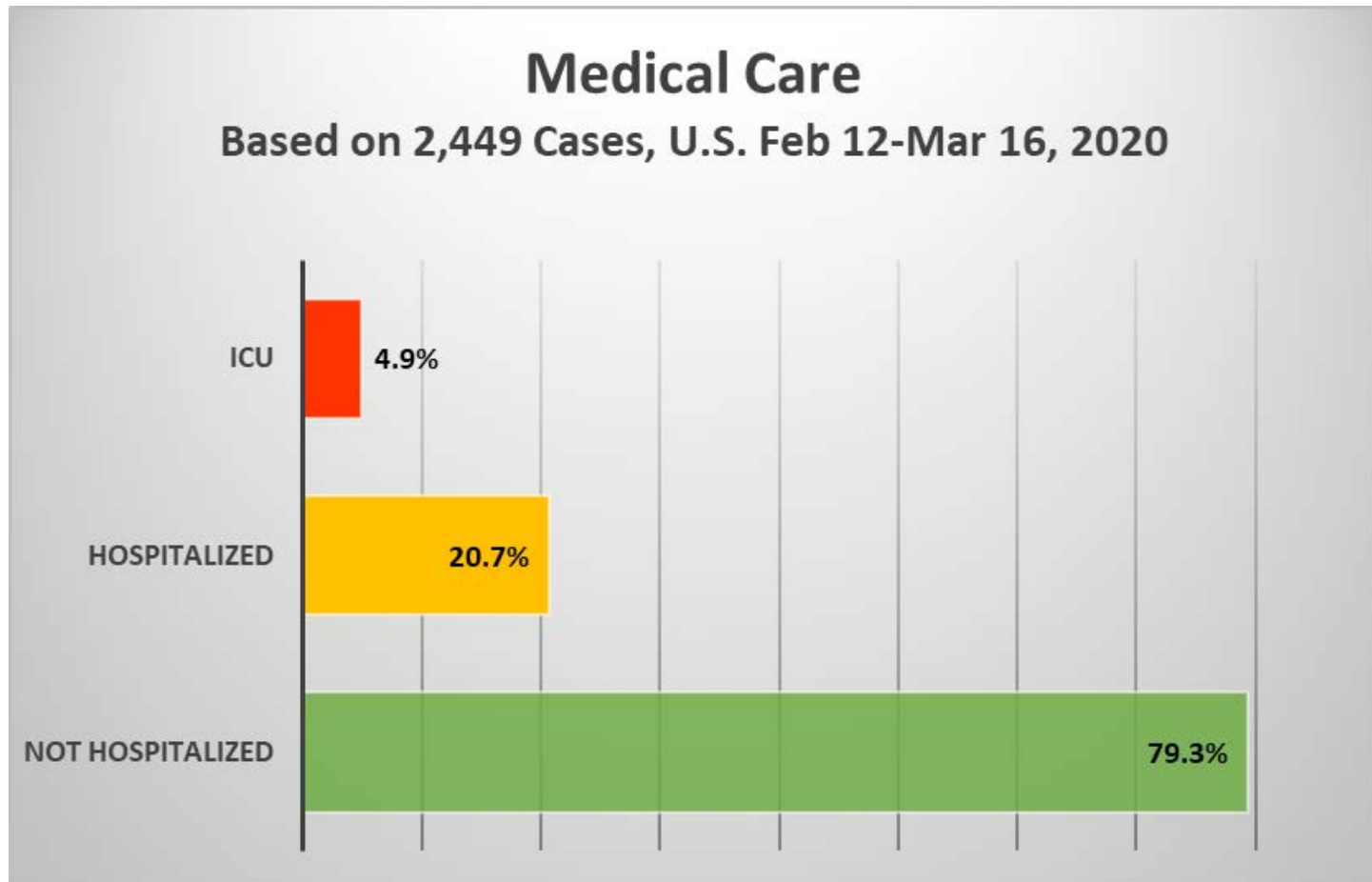
Total 1,792,899 Cases  
US 530,006 Cases  
New York 180,458

# Most Infection Causes Mild-Moderate Disease



Source: Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19), Based on 55924 Laboratory Confirmed Cases thru Feb 20, 2020 Available at <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf> Accessed March 18, 2020.

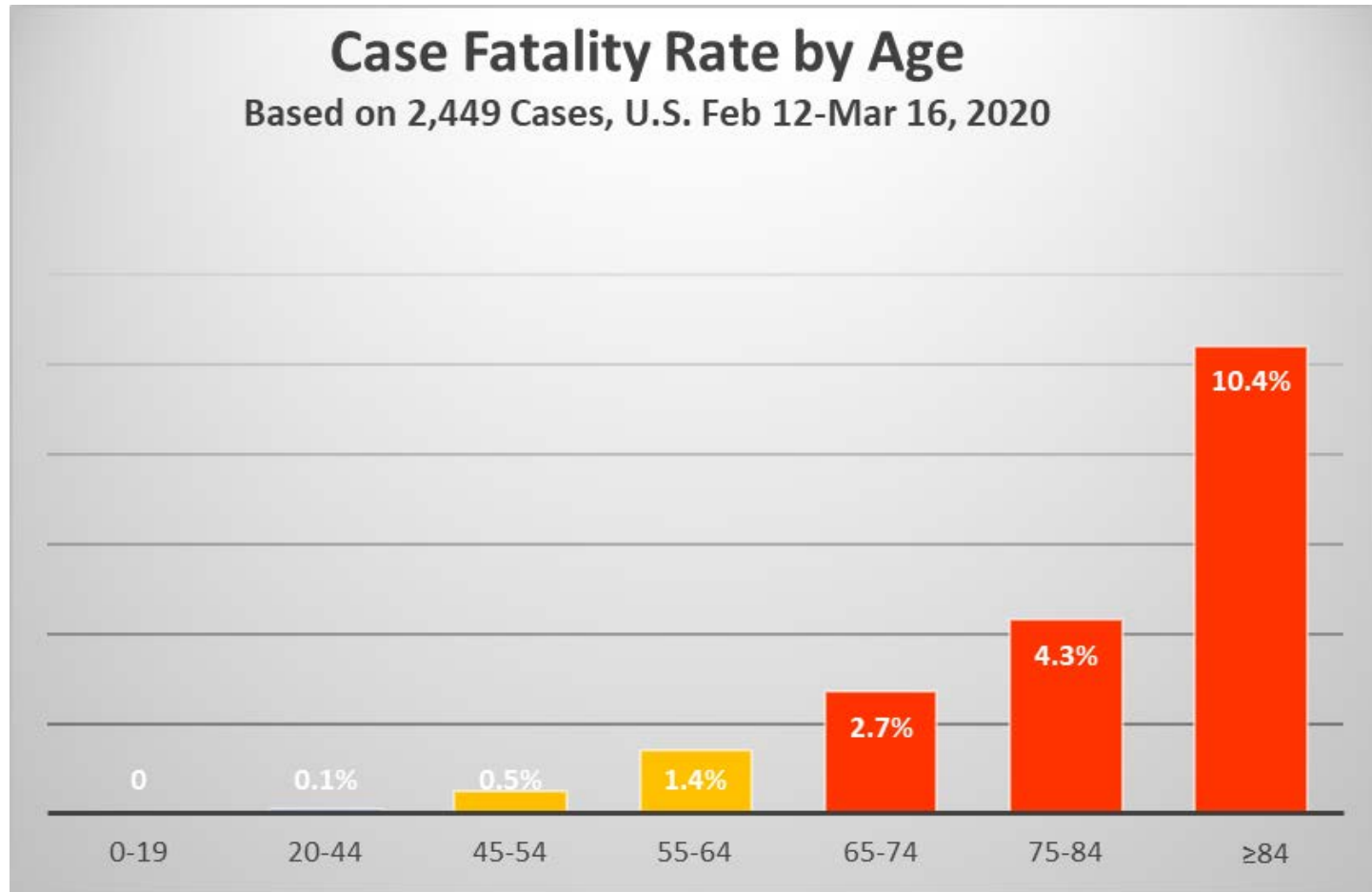
# Most Have Not Required Hospitalization



Source: Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020. MMWR Morb Mortal Wkly Rep 2020;69:343-346. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912e2> Accessed March 30, 2020.

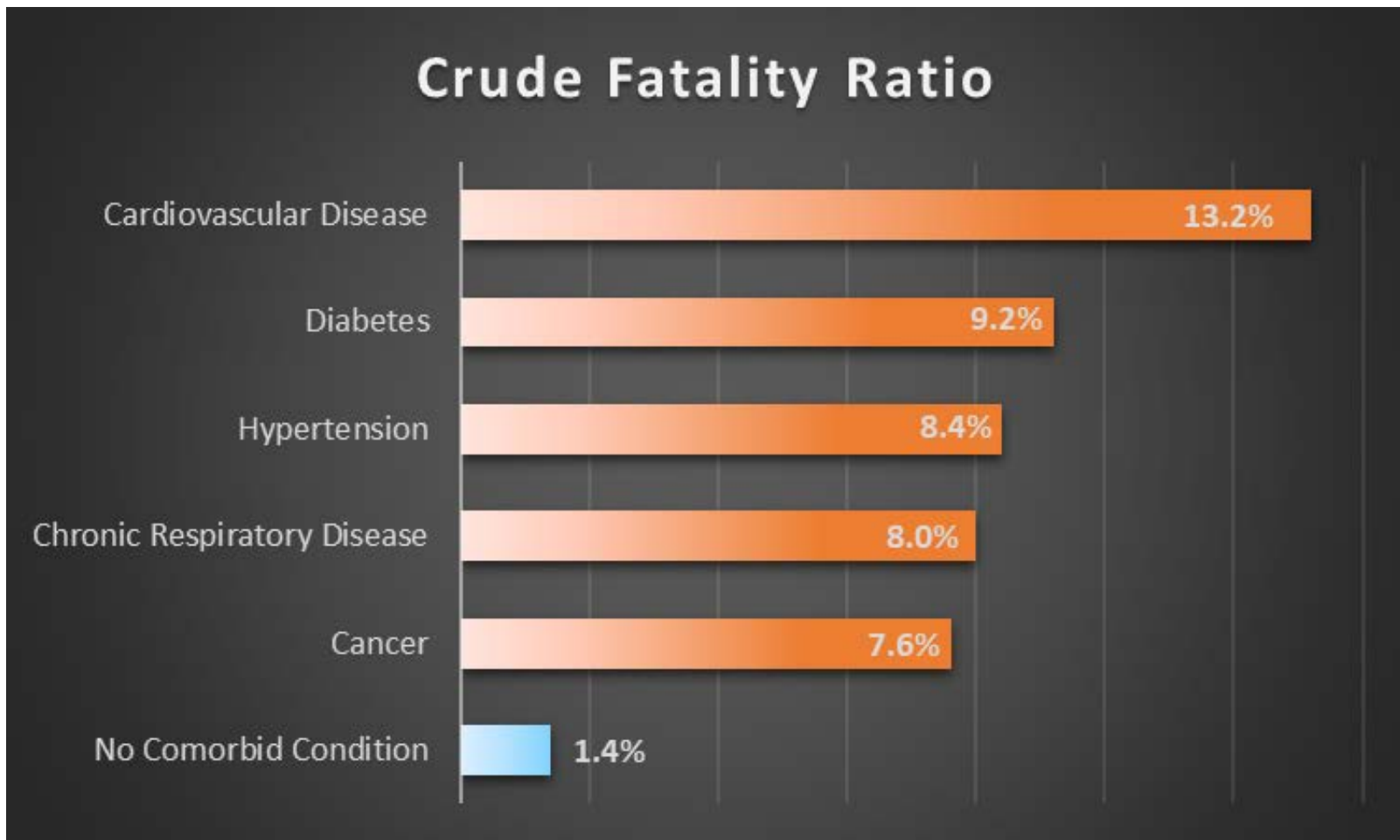


# Risk of Mortality Increases with Age



Source: Severe Outcomes Among Patients with Coronavirus Disease 2019 (COVID-19) — United States, February 12–March 16, 2020. MMWR Morb Mortal Wkly Rep 2020;69:343-346. DOI: <http://dx.doi.org/10.15585/mmwr.mm6912e2> Accessed March 30, 2020.

# Comorbidities Increase Risk



Source: Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19), Based on 55924 Laboratory Confirmed Cases thru Feb 20, 2020 Available at <https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf> Accessed March 18, 2020.

# Common COVID-19 Symptoms



If you develop **emergency warning signs** for COVID-19 get **medical attention immediately**. Emergency warning signs include\*:

- Difficulty breathing or shortness of breath
- Persistent pain or pressure in the chest
- New confusion or inability to arouse
- Bluish lips or face

\*This list is not all inclusive. Please consult your medical provider for any other symptoms that are severe or concerning.

[https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Fsymptoms.html](https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fabout%2Fsymptoms.html)



**Asymptomatic and Presymptomatic SARS-CoV-2 Infections in  
Residents of a Long-Term Care Skilled Nursing Facility —  
King County, Washington, March 2020**

- 23 of 76 (30.3%) surveyed tested positive for coronavirus
  - 10 had symptoms (8 typical; 2 atypical)
  - 13 had no symptoms
    - 10 developed symptoms (mean interval 3 days)
    - **3 did not develop symptoms**

## Asymptomatic and Presymptomatic Residents of a Long-Term King County

– 23 of 76 (30%) residents tested positive for  
coronavirus SARS-CoV-2

**ANYONE could have  
ASYMPTOMATIC COVID-19  
Infection**

(19 typical, 2 atypical)

– 19 developed symptoms (mean interval 3 days)

– 2 did not develop symptoms

# Remember How Transmission Occurs



Source: CDC\Brian Judd  
<https://phil.cdc.gov/details.aspx?pid=11161>

- Person to person via droplets (6 feet)
- Airborne transmission (aerosol generating procedures)
- Transmission via surfaces
  - viable for hours to days on surfaces

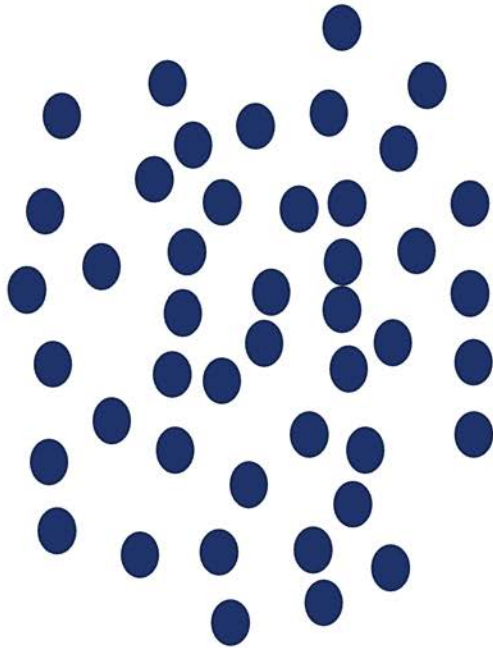
# Key Measures to Stop Transmission

- Maintain distance of 6 feet from *all* persons
- To prevent creation of droplets, wear a cloth mask *when outside of the home*
- Consider having healthcare providers *wear a mask and eye protection when caring for any patient who is not wearing a mask or within 6 feet of other people to prevent exposure to asymptomatic or pre-symptomatic patients*



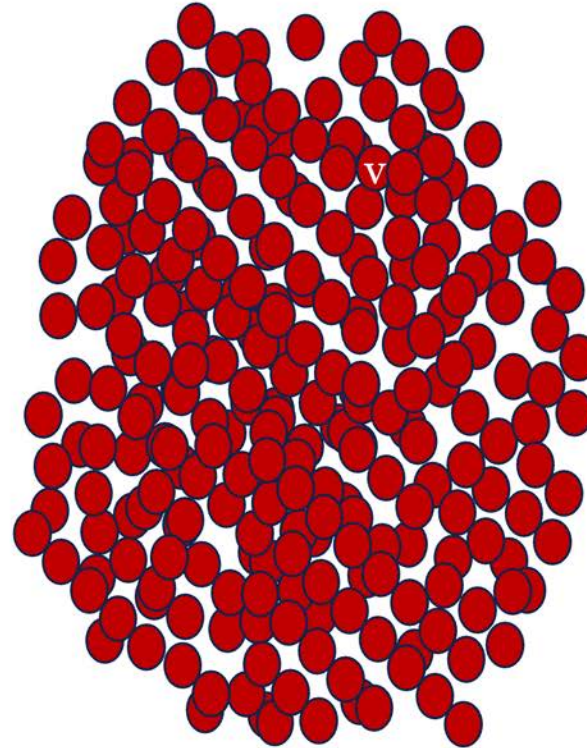
# Why is COVID-19 Spreading SO Quickly

## Influenza



1 Individual Infects  
average of 1.3 people

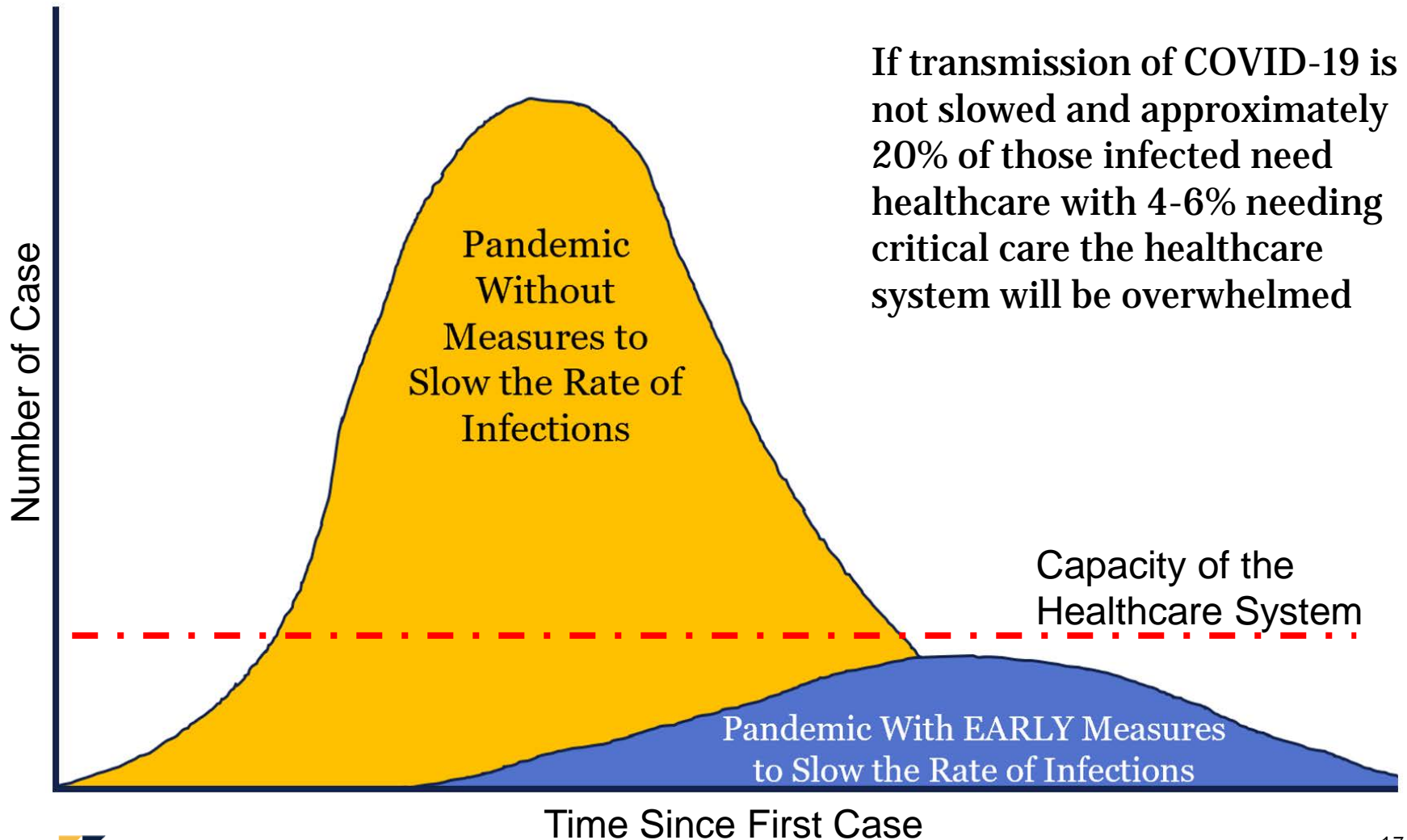
## COVID-19



1 Individual Infects  
average of 2-4 people

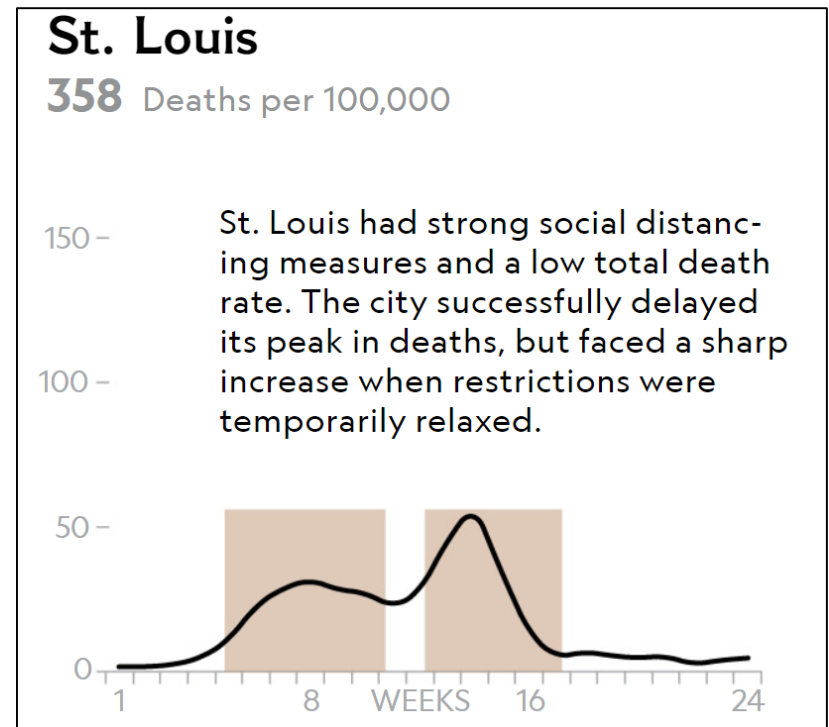
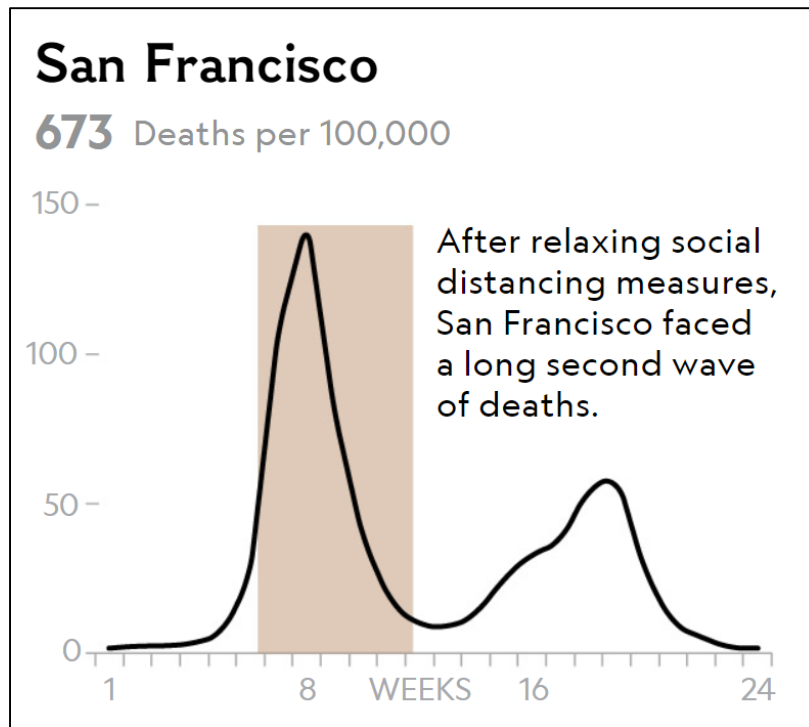


# Why is Slowing Spread Important?



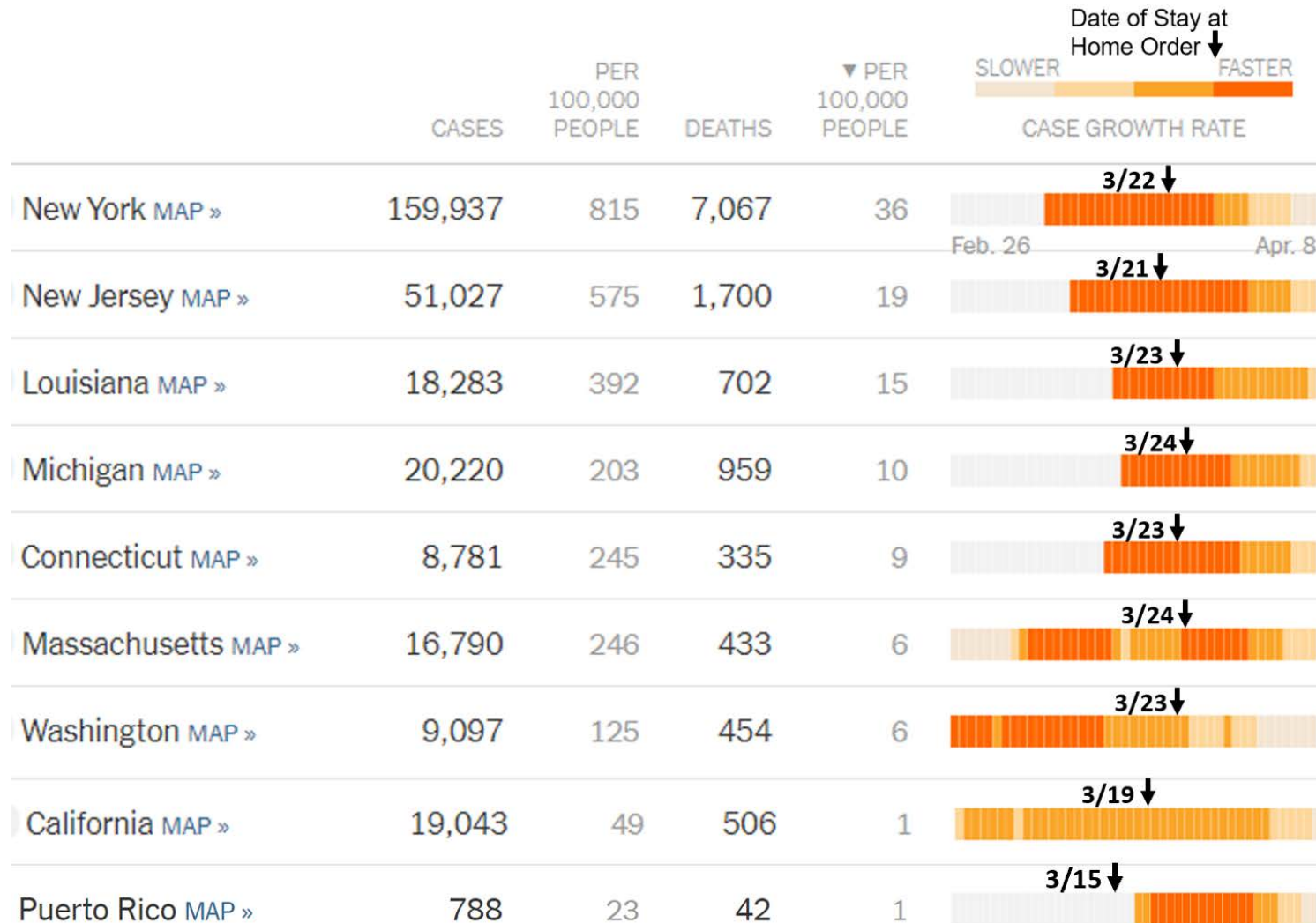
If transmission of COVID-19 is not slowed and approximately 20% of those infected need healthcare with 4-6% needing critical care the healthcare system will be overwhelmed

# Example in 1918 Influenza Pandemic



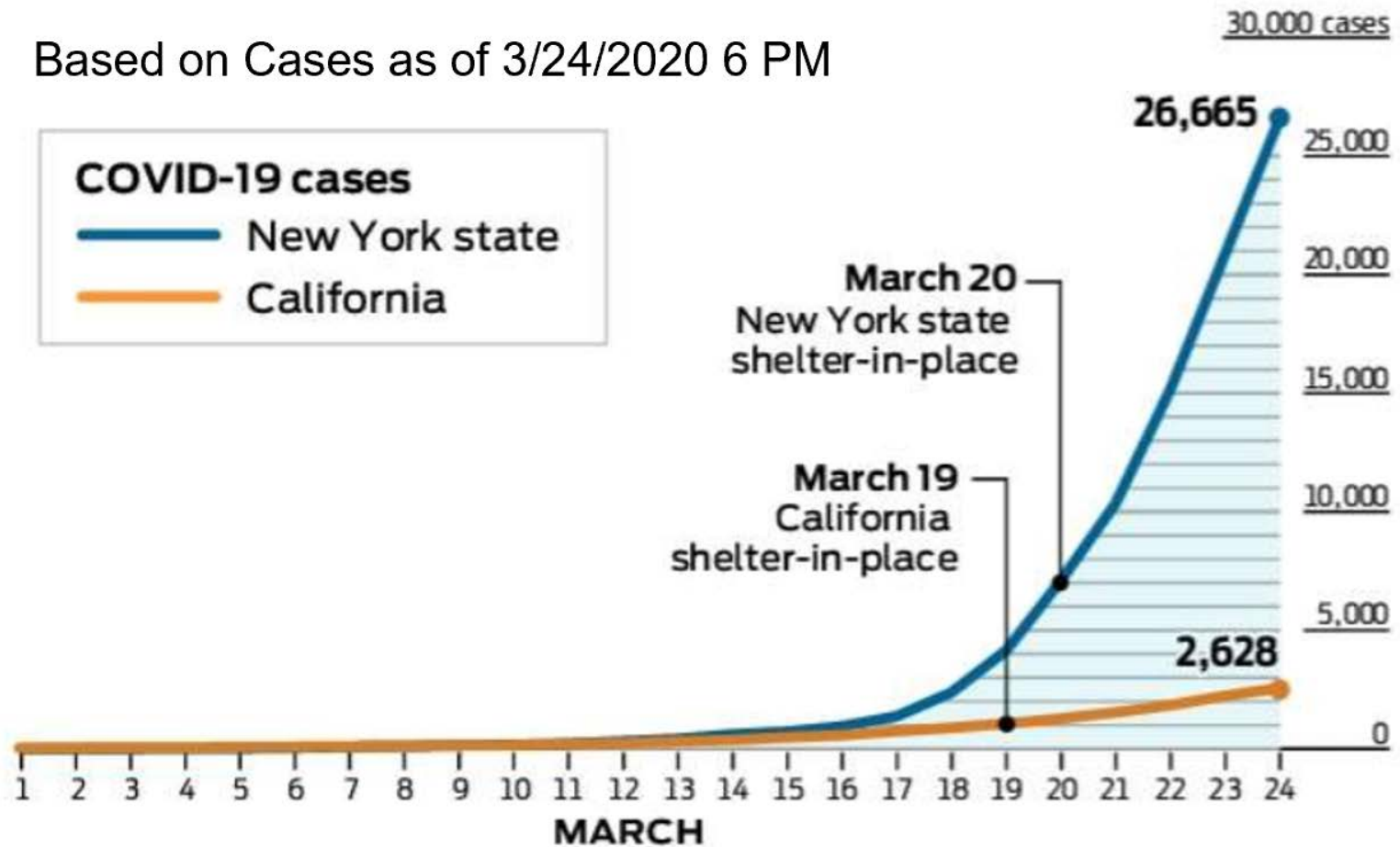
Cities that order social distancing later and for shorter periods had higher death rates than those who ordered it earlier and longer

# Cases by State



# Example from 2020 COVID-19

Based on Cases as of 3/24/2020 6 PM



Source: State and county health departments

John Blanchard/ The Chronicle

# Summary of Key Points

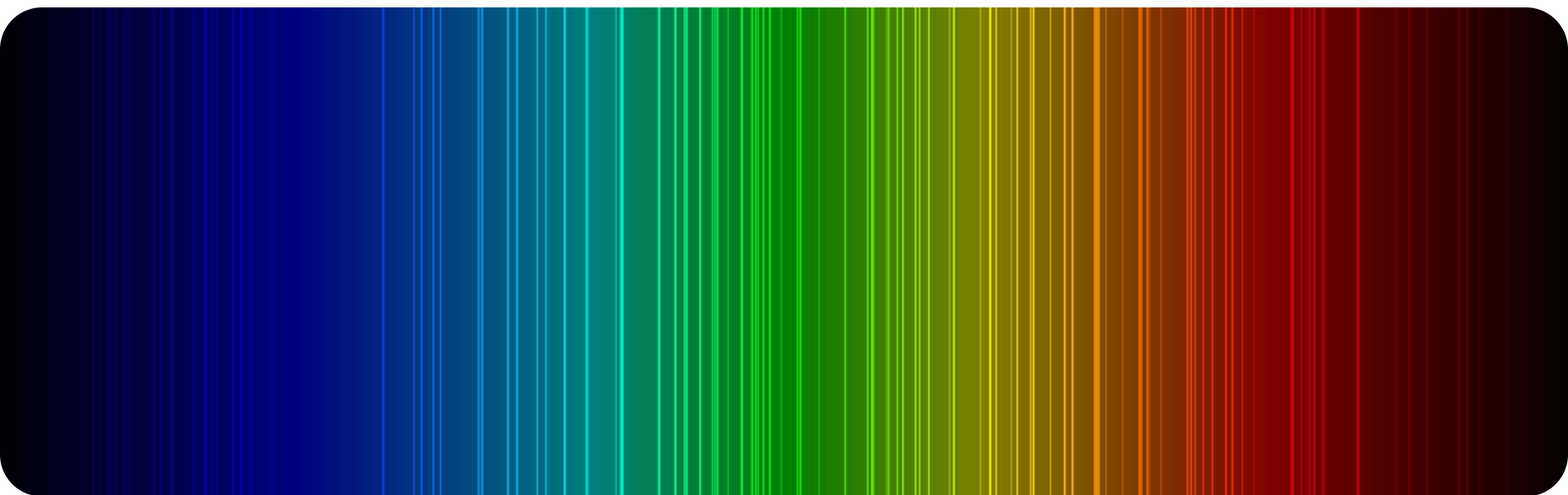
- COVID-19 is spread by droplet transmission and from contaminated surfaces
- Risk of exposure is increased during aerosol generating procedures
- The majority of people who have been *tested* have had fever, cough and shortness of breath
- ***Pre-symptomatic and asymptomatic people have been COVID-19 test positive and linked to transmission***

# Summary of Key Points

- COVID-19 is spread by droplet transmission from contaminated surfaces
  - Risk of exposure is increased by aerosol generating procedures
  - The majority of patients have been *tested* have had fever and shortness of breath
  - **Prevent transmission of COVID-19 test positive and linked asymptomatic and asymptomatic people**
- KEY CONTROL MEASURE:  
PREVENT DISPERSAL OF DROPLETS**

# How Hospitals Can Slow the SPREAD

# Preparing for COVID-19



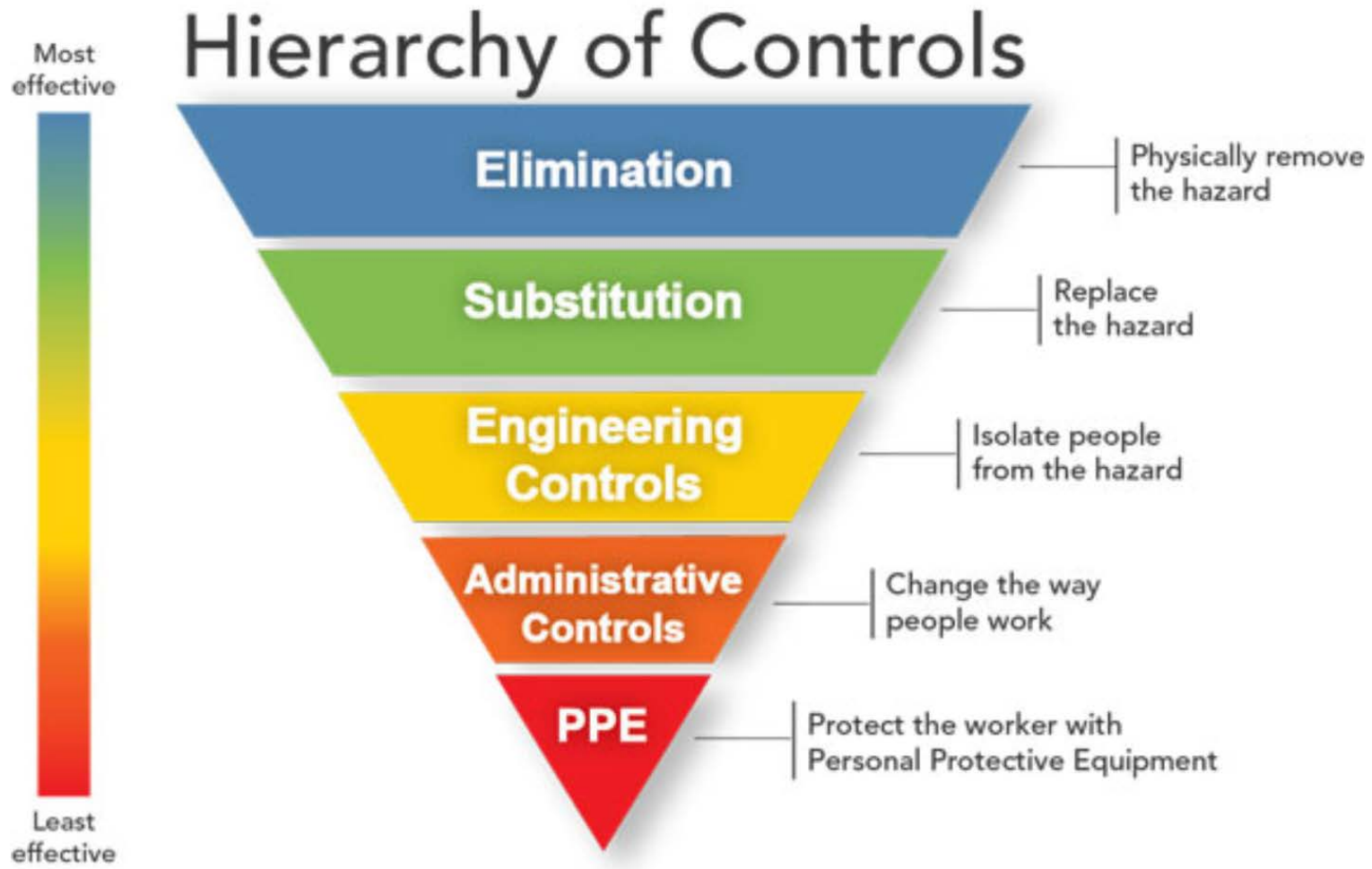
**Limited  
community  
transmission**

**Moderate  
community  
transmission**

**Widespread  
community  
transmission**



# Protecting Workers from Exposure



# Eliminate the Hazard and Preserve Supplies



Delay all elective ambulatory provider visits



Reschedule elective and non-urgent admissions



Delay inpatient and outpatient elective surgical and procedural cases



Postpone routine dental and eyecare visit

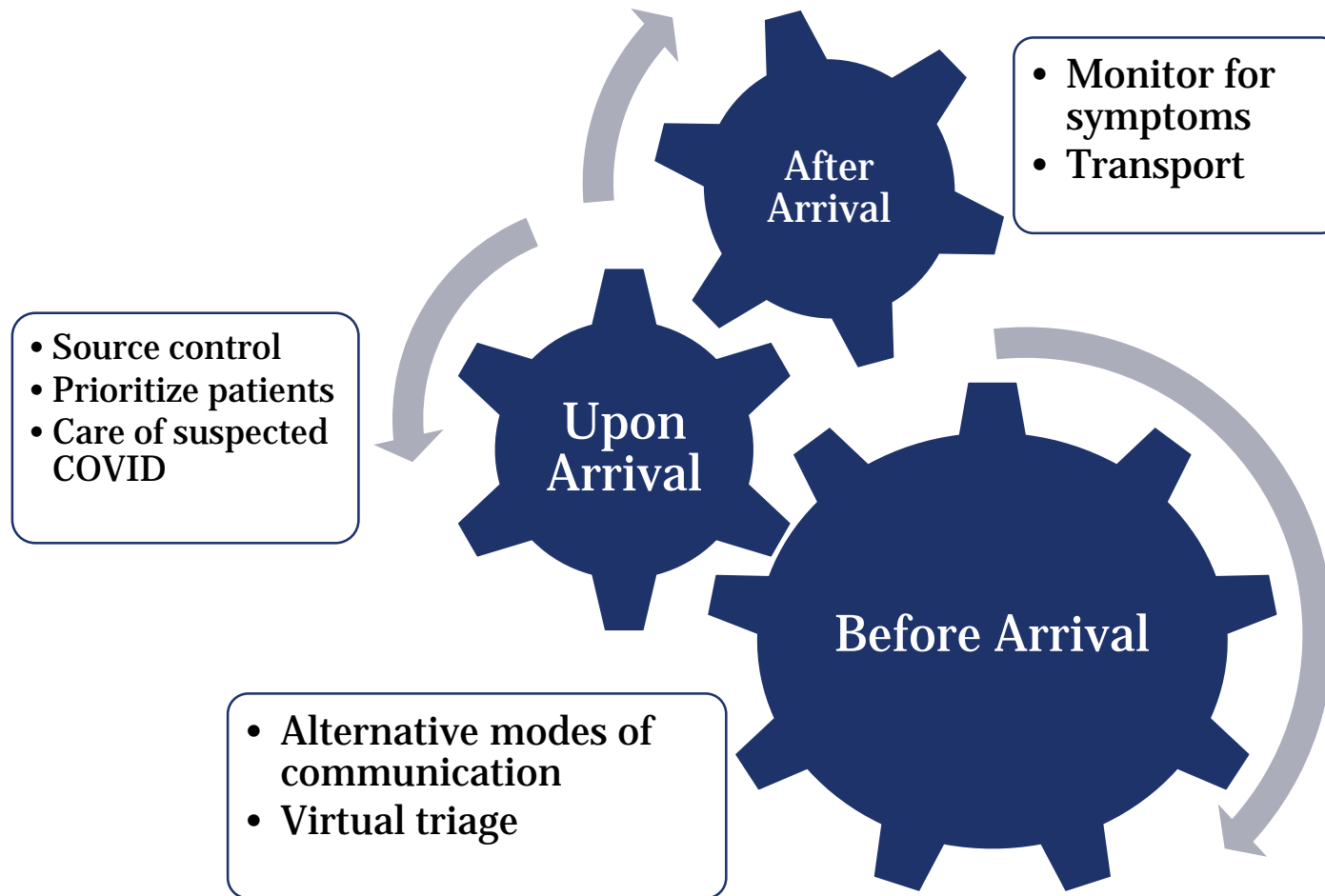


# Limit Exposures: Visitors

## **May be an undiagnosed source, plan ahead:**

- Clear communication about restriction of visitors
- Process for exceptions
  - Screening (symptomatic, pre-symptomatic, and asymptomatic)
  - Strategy for PPE use, if allowed
  - Limit access in facility
- Consider special areas:
  - Emergency department or clinics
  - High-risk population

# Limit Exposure: Patient Flow



# Limit Exposure: Before Arrival



- **Notify Community**
  - Mail
  - Call
  - Internet
  - Apps
  - Posters
- **Virtual triage**
  - Telehealth

# Limit Exposure: Upon Arrival

- Symptomatic versus asymptomatic patients
- **Source control**
  - Limit droplet dispersal (e.g. homemade mask)



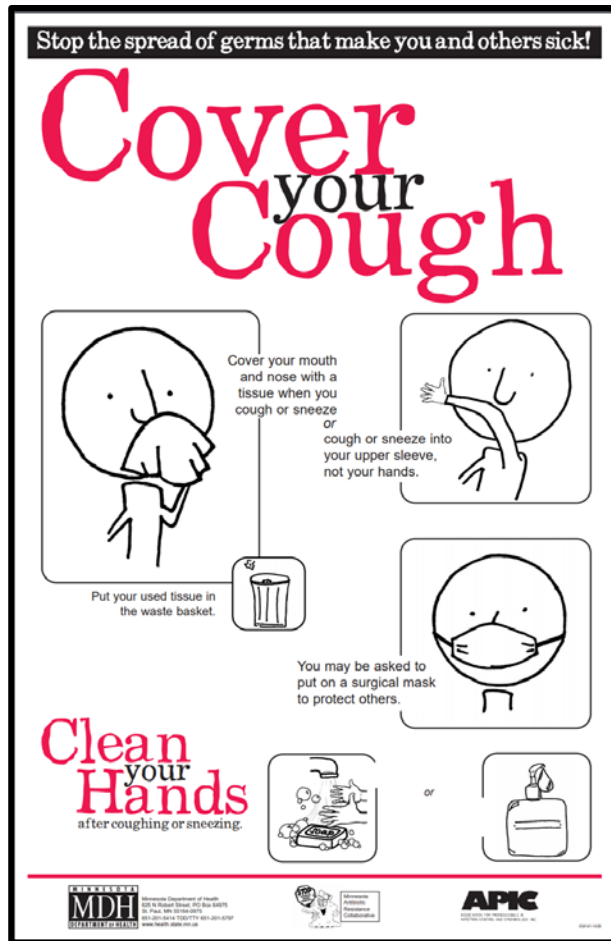
# Limit Exposure: After Arrival



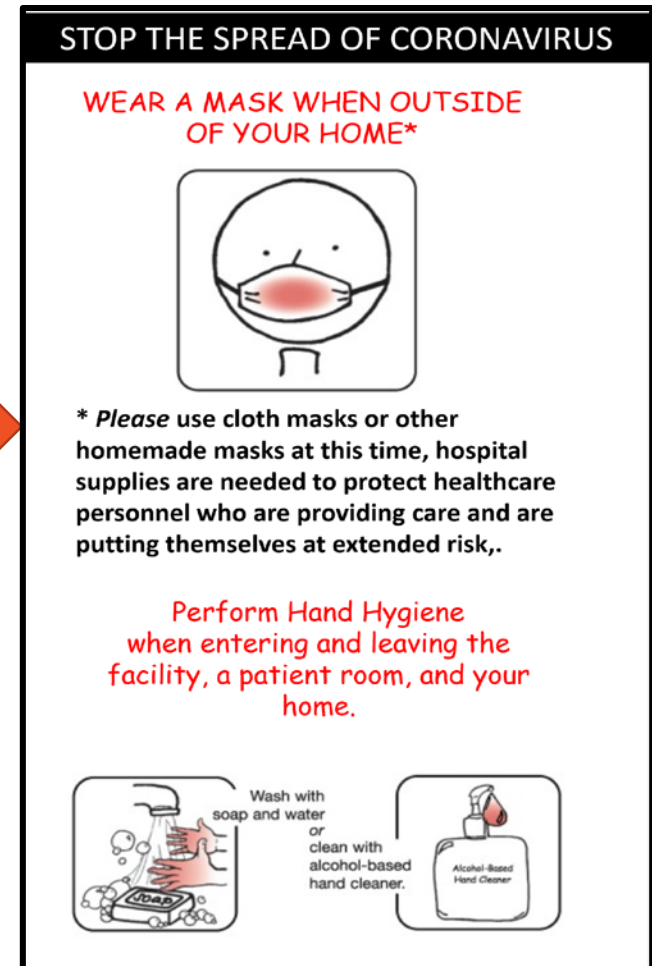
- **Presymptomatic patient**
- **Transport**
  - **Limit, if possible**
  - **Mask patients outside of room**

# Modify Conventional Practices

## Respiratory Etiquette: Conventional



## Source Control Etiquette: Modified

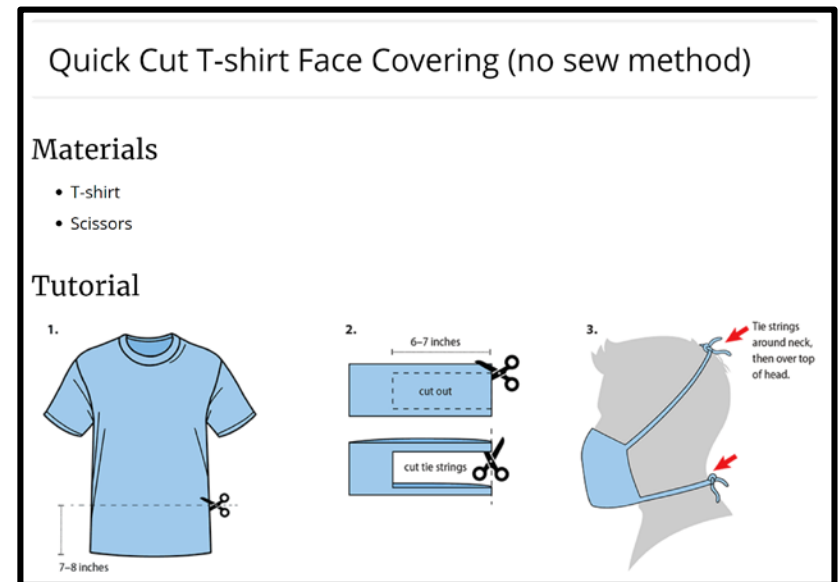




# Preserve Staff Supplies

## “**MAKE A MASK**” campaign:

- Post instructions on your website
- Ask volunteers to make or donate cloth masks
- Provide supplies at entrance



Source:

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html>

# Conserving Staff Supplies

*“The community is making these cloth masks for staff to use...*

*... We wear these around the hospital to protect people from us. When we go into an isolation room we wear different PPE but we wear this mask all other times!*

Megan, RN

Memorial Hospital, South Bend, IN

# Basic Infection Prevention Principles

## STANDARD PRECAUTIONS

- All patients, ALL times
- Protect yourself
- Protect patients
- Required PPE depends on activity

## HAND HYGIENE

- Soap and water or alcohol-based hand rub (ABHR)
- Provide inside and outside of rooms and at entrances
- Post reminders

# **Routine** Patient Care of COVID Patient

Minimize room entries

Ideas:

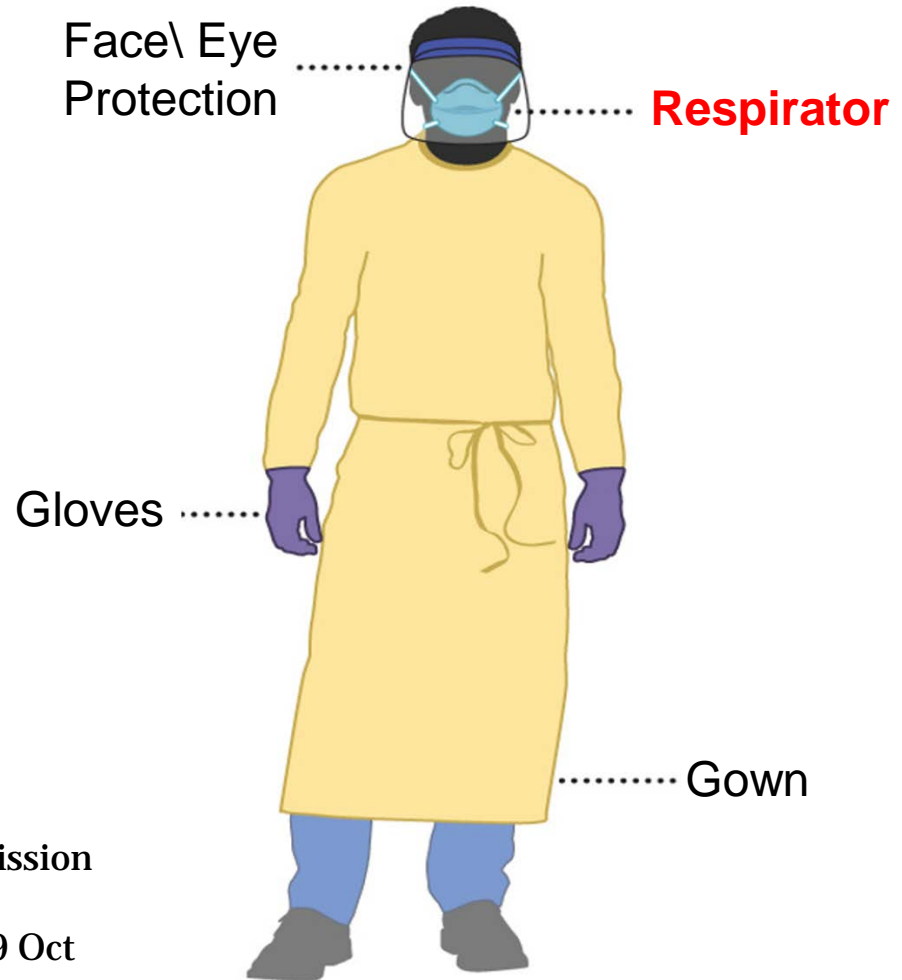
- Environmental cleaning tasks
- IV pumps outside of room
- Communication with patient
  - Nurse call system
  - Walkie talkies



# Aerosol-generating Procedures

## Examples of aerosol-generating procedures:

- Intubation
- Non-invasive ventilation (e.g., CPAP, BiPAP)
- Manual ventilation
- Bronchoscopy
- Open suctioning
- Nebulizer treatments
- Cardiopulmonary resuscitation



Source: Judson SD, Munster VJ. Nosocomial Transmission of Emerging Viruses via Aerosol-Generating Medical Procedures. *Viruses*. 2019;11(10):940. Published 2019 Oct 12. doi:10.3390/v11100940 Accessed April 8, 2020

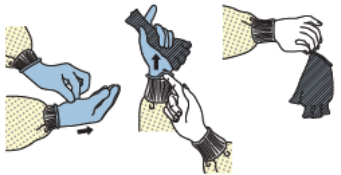



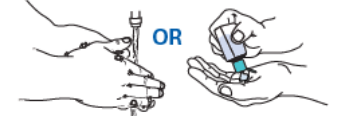
# Training and Competency of Staff PPE

- Lots of resources
  - Videos
  - YouTube
  - Joint Commission site
  - Posters

EVERYONE needs the same message

**HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)**  
**EXAMPLE 1**

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

- 1. GLOVES**
  - Outside of gloves are contaminated!
  - If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
  - Hold removed glove in gloved hand
  - Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
  - Discard gloves in a waste container
- 2. GOGGLES OR FACE SHIELD**
  - Outside of goggles or face shield are contaminated!
  - If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Remove goggles or face shield from the back by lifting head band or ear pieces
  - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container
- 3. GOWN**
  - Gown front and sleeves are contaminated!
  - If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
  - Pull gown away from neck and shoulders, touching inside of gown only
  - Turn gown inside out
  - Fold or roll into a bundle and discard in a waste container
- 4. MASK OR RESPIRATOR**
  - Front of mask/respirator is contaminated — DO NOT TOUCH!
  - If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
  - Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
  - Discard in a waste container
- 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE**

# Minimize Potential for Exposures

## For Aerosol Generating Procedures

- Perform in negative pressure room
- Limit personnel in room to essential personnel
- Consider point source control to decrease aerosol exposure

Ventilated Headboard:  
<https://www.cdc.gov/niosh/topics/healthcare/engcontROLSolutions/ventilated-headboard.html>

## Examples: Point Source Control



Use of Mask over patient receiving high flow O<sub>2</sub>

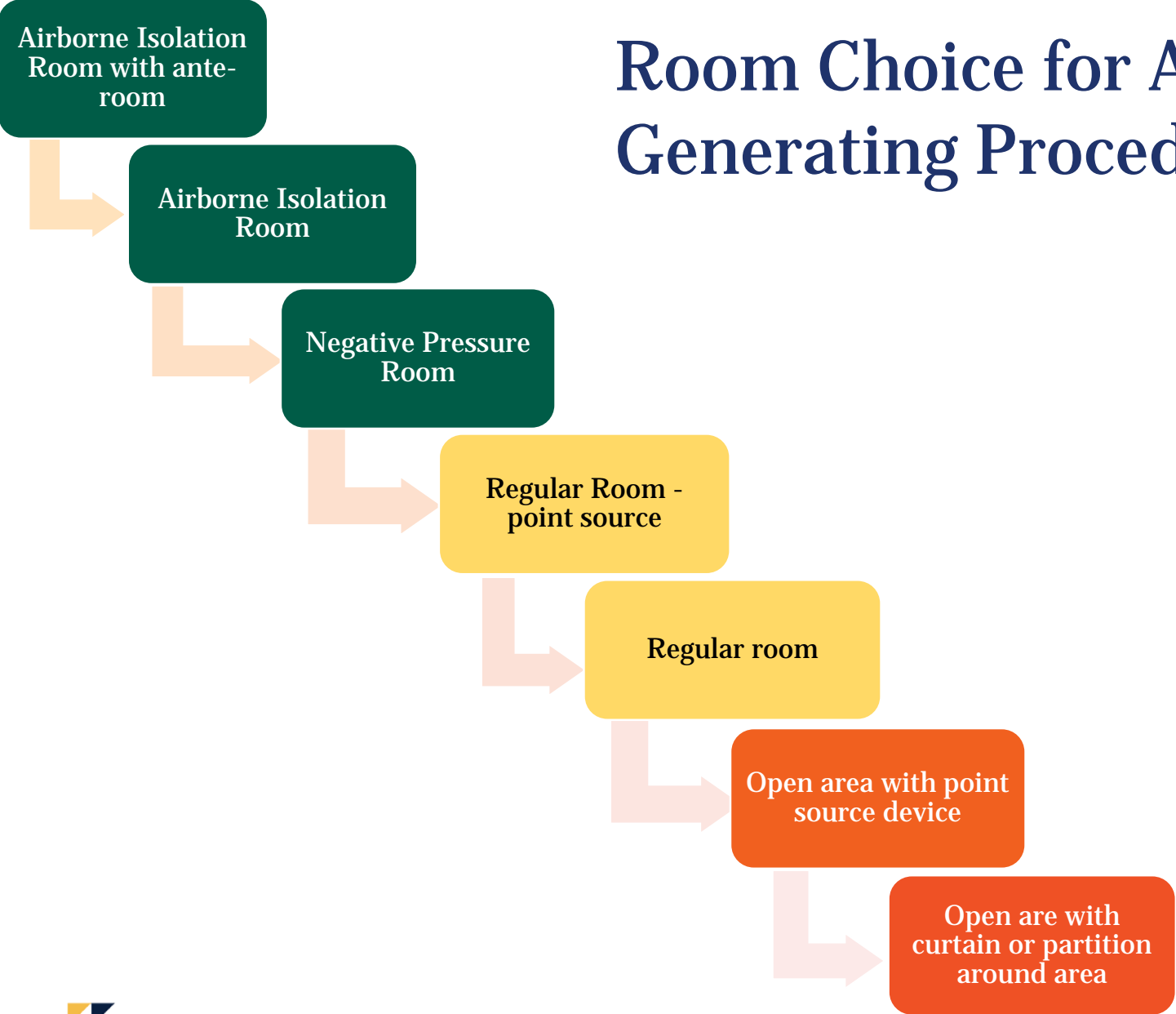


Ventilated Headboard



Containment Box

# Room Choice for Aerosol Generating Procedures

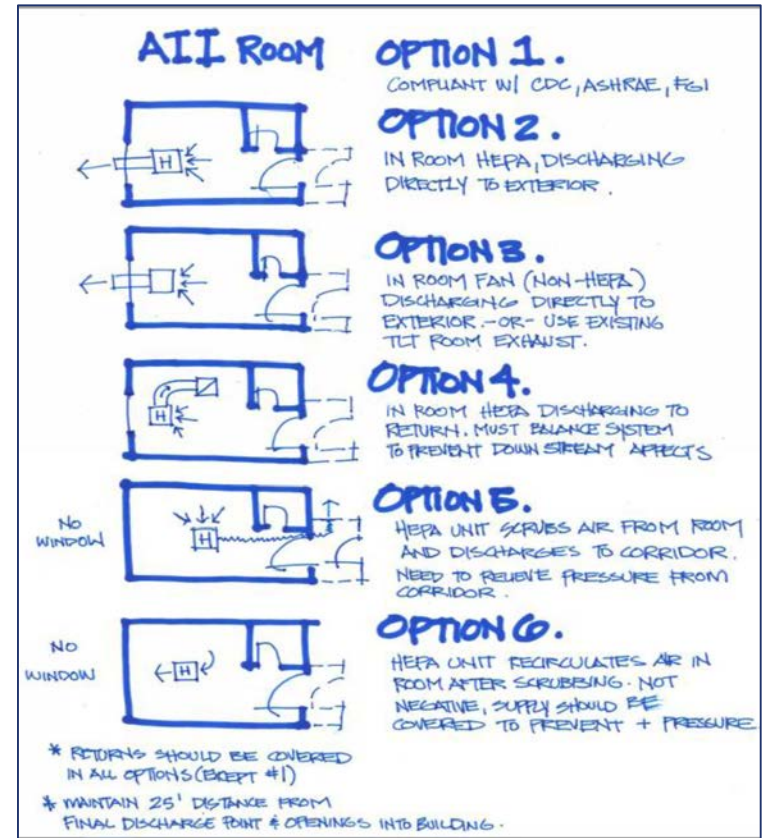




# Creating Airborne Isolation Rooms

Complex process

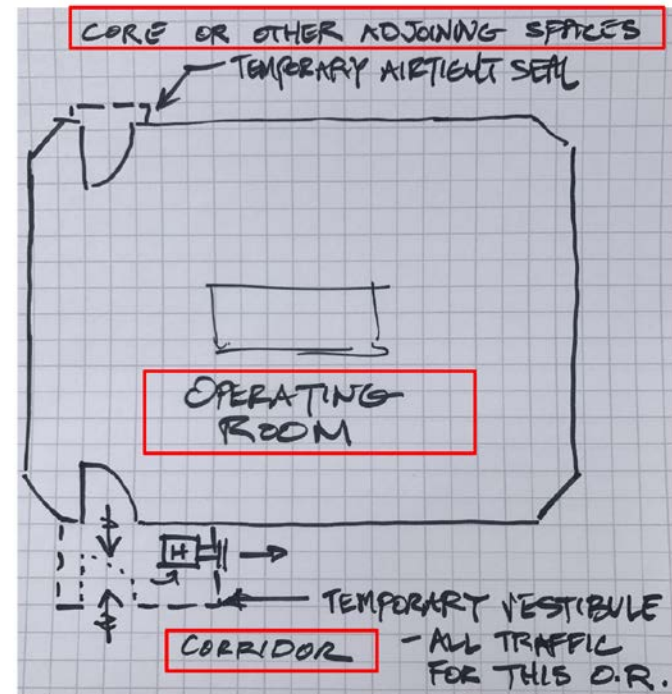
- Must include facilities expert in HVAC
- Once in place need a process to maintain or may create positive pressure situation
- May need to rebalance other areas



Source: ASHRAE COVID-19 Guidance  
<http://tc0906.ashraetcs.org/documents/COVID%2019%20%20GUIDANCE%20-%20ASHRAE%20Revised3-25-2020.pdf>  
Accessed April 6, 2020

# Surgical Procedures

- Keep door closed
- Limit personnel to those needed
- **Other Options**
  - Create temporary ante-room (ASHRAE)
  - Use point source control
  - Rebalance room (not recommended by ASHE\*\*)



Picture Source: \*ASHRAE COVID-19 Guidance  
<http://tc0906.ashraetcs.org/documents/COVID%2019%20%20GUIDANCE%20-%20ASHRAE%20Revised3-25-2020.pdf>  
Accessed April 6, 2020

\*\*ASHE: [https://www.ashe.org/covid-19-frequently-asked-questions?utm\\_source=General%20Announcements&utm\\_medium=email&utm\\_campaign=4%2E10%2E20%20COVID%2D19%20Resource%20Roundup](https://www.ashe.org/covid-19-frequently-asked-questions?utm_source=General%20Announcements&utm_medium=email&utm_campaign=4%2E10%2E20%20COVID%2D19%20Resource%20Roundup)

# Collection of Diagnostic Specimens

## Routine:

- Nasopharyngeal (NP) swab
- PPE: respirator, eye protection, gown, gloves
- Regular room – door closed

## Alternative as *approved* by testing authority

### EXAMPLE: NYSDOH Wadsworth Center Testing

- Preferred: NP swab (PPE)
- Alternative: Nasal swab + saliva specimen (supervised from outside room)

Example: NYSDOH Wadsworth Center COVID-19 Specimen Collection Transport and Handling Instructions (this site only)

[https://coronavirus.health.ny.gov/system/files/documents/2020/04/doh\\_covid19\\_guidespecimencollection\\_040120.pdf](https://coronavirus.health.ny.gov/system/files/documents/2020/04/doh_covid19_guidespecimencollection_040120.pdf) Accessed April 12, 2020

# Cleaning and Disinfection

## General Principles

- If dirty, clean with a detergent or soap and water prior to disinfection.
- Follow the manufacturer's instructions for all cleaning and disinfection products (e.g., concentration, application method and contact time, etc.).
- Do not mix products unless instructed by manufacturer
- More is not better!

# Disinfection of Hard Surfaces

- EPA-registered, hospital or healthcare disinfectant\*
- If not available, consider EPA-registered Institutional or residential disinfectants\*

(<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>)

- Diluted household bleach solutions
  - Example in community settings\*: 5 tablespoons (1/3<sup>rd</sup> cup) bleach per gallon of water or 4 teaspoons bleach per quart of water

# Disinfection of Soft Surfaces

- Clean
  - Remove visible contamination, if present
  - Clean with cleaners for soft surfaces
- Disinfect
  - If able to launder, follow manufacturer's instructions warmest water setting for the item and dry completely
  - Products with the EPA-approved emerging viral pathogens claims  
(<https://www.americanchemistry.com/Novel-Coronavirus-Fighting-Products-List.pdf>) for porous surfaces

# Laundry: Linens, Clothing, and Other Items

- Do not shake dirty laundry and wear PPE
- Follow manufacturer's instructions- warmest water setting for the item and dry completely
- Dirty laundry that has been in contact with COVID-19 patient can be washed with general laundry
- Clean and disinfect laundry room surfaces, washers, hampers or other carts for transporting laundry according to guidance for hard or soft surfaces.
- If using reusable gowns, notify laundry services

From: <https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html> — 47

# Meals

- Routine food services sanitation procedures should be adequate for surfaces and utensils
- Consider strategies for meal distribution and tray pick that will conserve PPE and prevent exposures
- Avoid food distribution to employees in settings where people might gather in a group or crowd.
- Examples of alternatives
  - Grab and go
  - Pre-packaged meals
  - Order ahead
  - Staggered breaks and lunches



# Managing Supplies during Pandemic

# Current Situation

- The rate of supply use depends on multiple factors including
  - Number of patients
  - Number of staff
  - Processes organizations put in place to conserve supplies
  - Increases in production and distribution

# Current Situation

- The rate of supply use depends on several factors including
  - Number of patients
  - Number of procedures
  - Procedures in place to

**Current Shortages are Occurring  
Current Projections Indicate Critical Supply  
Shortages Will Occur if Conservation  
Measures are Not Implemented**

<https://www.nationalgeographic.com/science/2020/03/us-america-has-fraction-medical-supplies-it-needs-to-combat-coronavirus/>

# Joint Commission Advocacy



**ACP**  
American College of Physicians  
Leading Internal Medicine, Improving Lives



AMERICAN COLLEGE OF SURGEONS  
Inspiring Quality  
Highest Standards, Better Outcomes  
100 years



**ADA** American  
Dental  
Association®



American Hospital  
Association™  
Advancing Health in America



**AMA**  
AMERICAN MEDICAL  
ASSOCIATION



The Joint Commission

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**Public Statement on the Shortages of Critical Medical Equipment**  
March 27, 2020

As organizations that represent or collaborate with individuals and institutions at the forefront of delivering health care in the midst of the COVID-19 pandemic, we are vitally concerned with the shortages of masks, face shields and other personal protective equipment (PPE), ventilators, swab kits, and testing capacity that are critically needed by frontline caregivers and patients. In the most affected areas, hospitals, other healthcare delivery organizations, physicians, dentists, nurses, and other caregivers need help now. Many others will need the same help in the coming weeks.

PPE is needed immediately to protect the caregivers who are risking their own health to care for patients in the most need. Shortages of ventilators and intensive care facilities threaten the lives of the sickest patients.

We strongly support emergency efforts at the federal level to dramatically increase the production and distribution of PPE and other necessary medical equipment and supplies. We also support the availability of telehealth services during this time to use less PPE while preventing the spread of infection.

We must all work immediately to remove any impediments anywhere in the supply chain and come together at the federal, state, and local levels to develop an approach for a fair, equitable, and swift distribution across the nation that is based upon evidence of the most need.



Darilyn Moyer, MD, FACP  
Executive Vice President and CEO  
American College of Physicians



Richard J. Pollack  
President and CEO  
American Hospital Association



David B. Hoyt, MD, FACS  
Executive Director  
American College of Surgeons



James L. Madara, MD  
CEO And Executive Vice President  
American Medical Association



Kathleen T. O'Loughlin, DMD, MPH  
Executive Director  
American Dental Association



Mark R. Chassin, MD, FACP, MPP, MPH  
President and CEO  
The Joint Commission

Print

## Personal Protective Equipment - Managing Critical Shortages of Personal Protective Equipment (PPE) During Declared Emergencies

What should an organization do if they are facing a critical shortage of personal protective equipment (PPE) and are unable to obtain the PPE commercially?

[Back to FAQs](#)

*Any examples are for illustrative purposes only.*

If organizations are facing critical shortages of personal protective equipment, they should contact their local health authority for assistance and possibly direction to the appropriate state specific contact who controls their state strategic stockpile.

The Office of the Assistant Secretary for Preparedness and Response (ASPR) manages the strategic national stockpile (SNS). This stockpile is designed to supplement and resupply state and local inventories of medications and supplies during emergencies which are severe enough to exhaust local supplies. In addition to the SNS, many states have their own stockpiles of medications and supplies.

In emergency situations, organizations may need to institute measures to conserve supplies of personal protective equipment. These may include use of alternative products, such as powered air purifying respirators (PAPRs) in place of N95 respirators and eye protection or revising how personal protective equipment will be used (e.g., keeping the same N95 respirator or mask on for care of multiple patients unless contaminated or damaged). In some cases, organizations may need to determine if alternate gowns should be used for protection of staff or sterile procedures.

When instituting these measures, all the following must be considered:

- They must be instituted in conjunction with implementation of facility emergency management procedures
- The organization must involve those who are knowledgeable about the routine practices that will be impacted, as well as specific benefits and limitations of affected personal protective equipment (e.g., infection control, industrial hygiene, occupational medicine)
- The revisions must be clearly communicated to involved staff
- Enhanced monitoring for negative impact (e.g., increased reports of exposure or infection) should be instituted.

# CDC: PPE Optimization Strategy

- Conventional capacity: standard US practices
- Contingency capacity: modifications in standard practices which should not significantly impact patient or healthcare worker safety
- Crisis capacity: Not commensurate with U.S. standards of care

# Assumptions **Before** Crisis Interventions

- **As PPE becomes available, healthcare facilities will resume standard practices**
- Notified local health authority of needs for PPE
- Maximized use of engineering controls
  - Implemented use of PPE that can be reprocessed (e.g., cloth gowns)
  - Using barriers or devices to prevent exposures (e.g., plastic windows, call systems, closed suction)

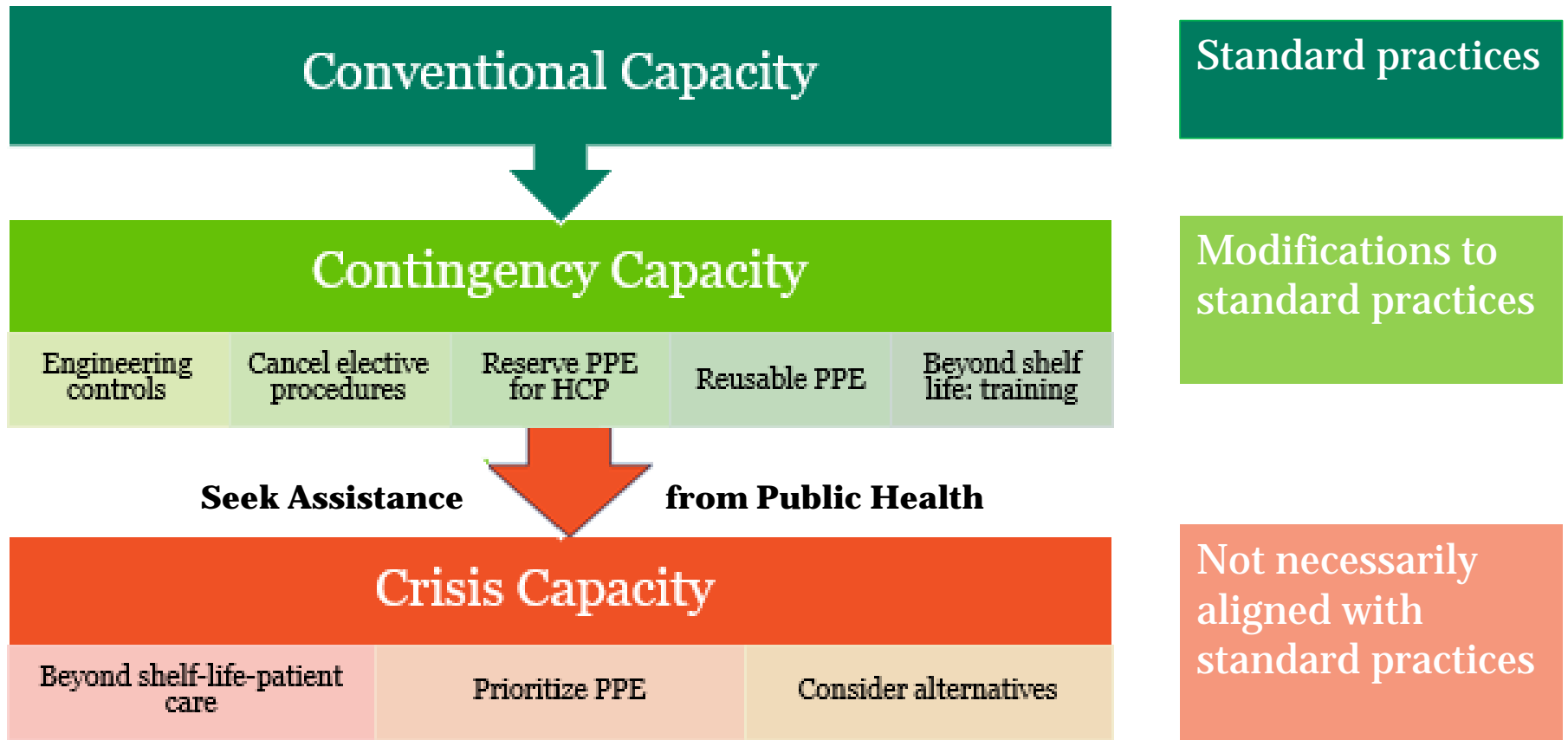
Source: CDC Engineering and Administrative [https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Frespirators-strategy%2Fconventional-capacity-strategies.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Frespirators-strategy%2Fconventional-capacity-strategies.html) Controls Accessed April 11, 2020

# Assumptions **Before** Crisis Interventions:

- Maximized use of work practice controls
  - Excluded visitors and non-essential workers
  - Excluded those who are not providing direct care from patient room
  - Limited face to face encounters of healthcare providers with patients
  - Provided required education, training, and demonstrated competency about available PPE including donning and doffing

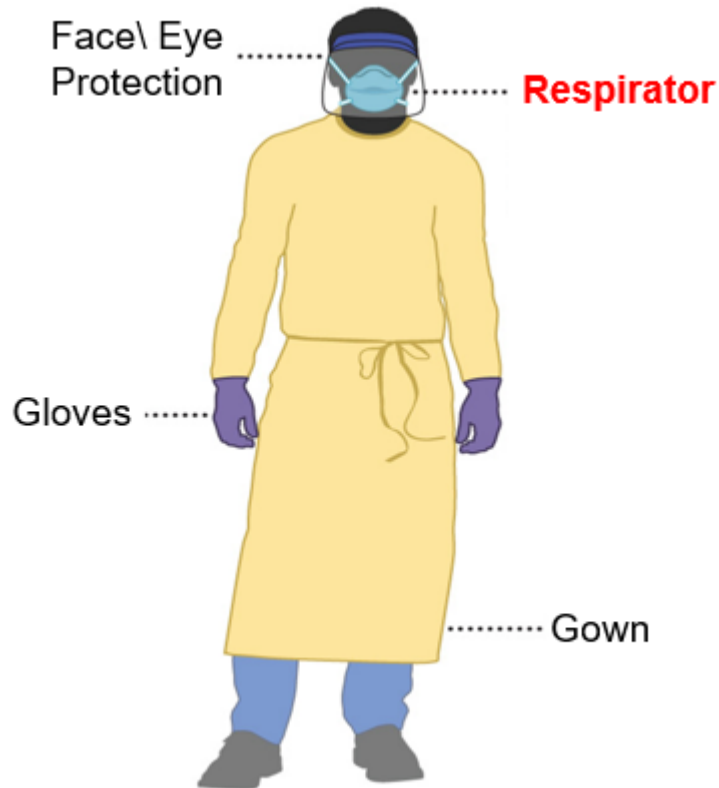
Source: CDC Engineering and Administrative [https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html?CDC\\_AA\\_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Frespirators-strategy%2Fconventional-capacity-strategies.html](https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fhcp%2Frespirators-strategy%2Fconventional-capacity-strategies.html) Controls Accessed April 11, 2020

# CDC: PPE Optimization Strategy





# PPE Selection based on Anticipated Exposure



**Aerosol Generating Procedures**

**Routine Care**

# Respiratory Protection

# Respirator vs Facemask



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## Personal Protective Equipment - Mask Considerations When Caring for Known or Suspected COVID-19 Patients

Print

Is it acceptable to wear a facemask when caring for a known or suspected COVID-19 patient ?

[Back to FAQs](#)

*Any examples are for illustrative purposes only.*

Based on the [report from the first 55,924 cases of COVID-19 in China](#) and [CDC: What Healthcare Personnel Should Know about Caring for Patients with Confirmed or Possible COVID-19 Infection](#), facemasks\* are an acceptable alternative to respirators\*\* when caring for a person with known or suspected COVID-19, except when participating in aerosol generating procedures (e.g. endotracheal intubation, suctioning of the respiratory tract [if not using in-line suction catheters], and bronchoscopy)..

\* **Facemask** (e.g., surgical or procedural mask): A facemask is a loose-fitting disposable device that creates a physical barrier between the mouth/nose of wearer and potential contaminants in the environment

\*\* **Respirators**: A respirator is a personal protective device that is worn on the face, covers at least the nose and the mouth, and is used to reduce the wearer's risk of inhaling hazardous airborne particle (e.g. dust and infectious agent(s)). Types of respirators include N95s, elastomeric filtering facepiece, and powered air-purifying respirators (PAPRs)

### Additional Resources:

[U.S. Department of Labor Issues Temporary Enforcement Guidance for Respirator Fit-Testing in Healthcare during COVID-19 Outbreak](#)

Last updated on April 09, 2020



# Filtering Facepiece Respirators



## N95 (or higher) mask

Disposable  
Filters airborne particles  
Requires fit testing



## Elastomeric Filtering Facepiece

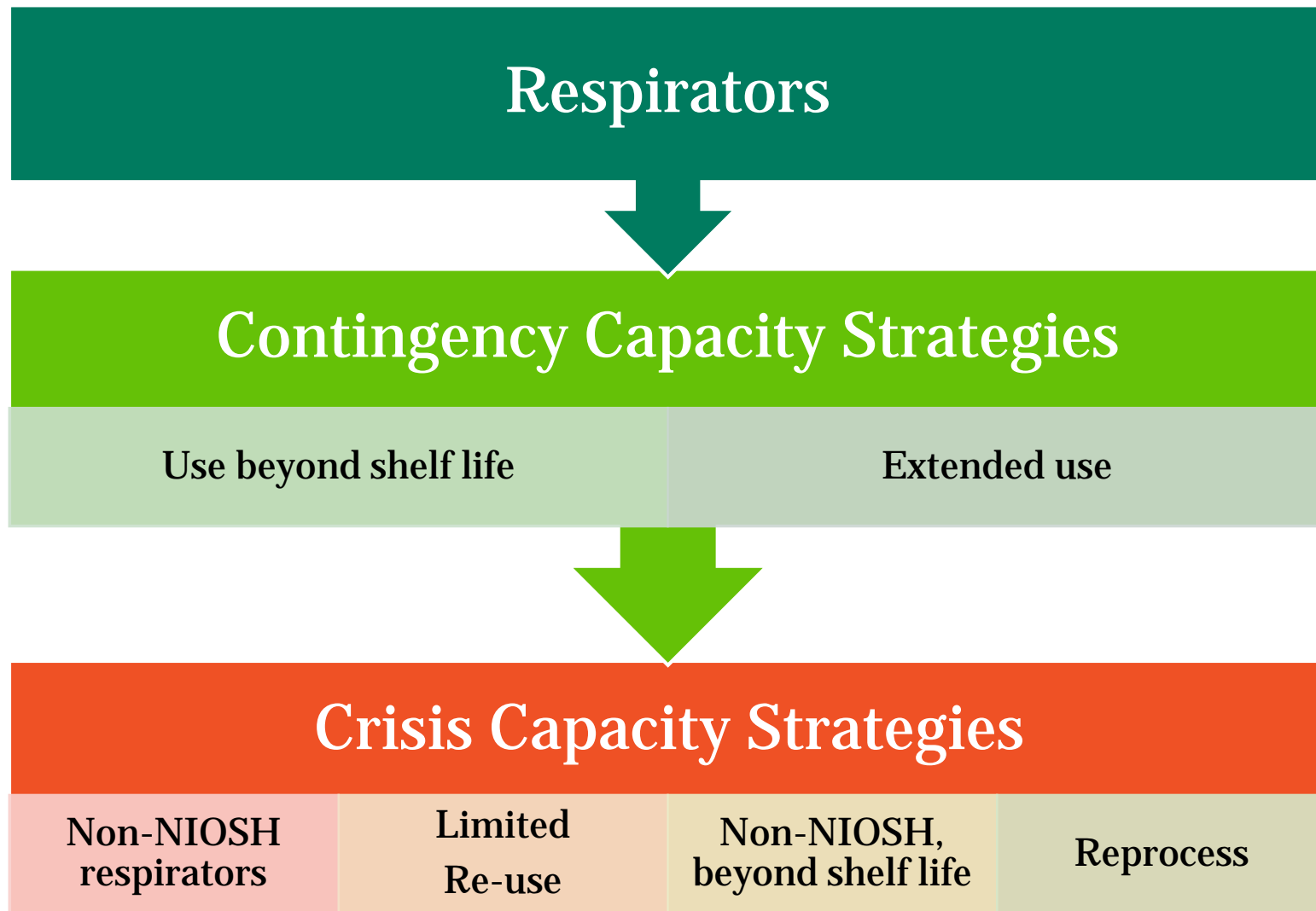
Reusable device  
Requires fit testing  
May be disinfected



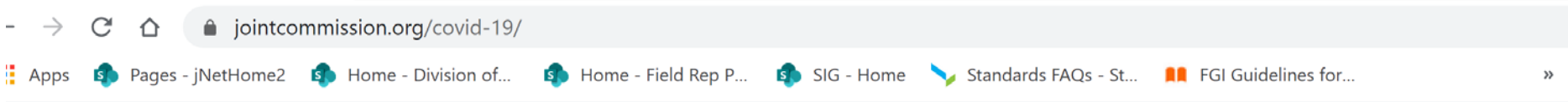
## Powered Air-Purifying Respirator (PAPR)

Reusable device  
Battery operated  
Half or full facepiece

# CDC: Respirator Optimization Strategy



# Joint Commission Coronavirus Website



Our Websites: ▾

Search this site. 🔍

## Disinfection/Decontamination of Masks and Respirators

- Can single use respirators be decontaminated? [Read FAQ](#) - **New! April 2, 2020**

**Note:** Agencies, such as [States](#), the [CDC](#), [FDA](#) and other stakeholders, including [safety organizations](#), have provided guidance on this practice. *The resources below are listed as a service. The Joint Commission does not endorse any specific method or product.*

# N95 Decontamination

Source: <https://www.n95decon.org/>

**COVID N95 DECON & REUSE**

**HEAT & HUMIDITY**

**QR CODE**

**N95 MASK INTEGRITY**

- N95 keeps filter performance at 5 cycles of 60°C heat, 80% humidity
- N95 shown to keep proper seal after 1 cycle at 65°C, 85% humidity

**CORONAVIRUS INACTIVATION**

*Data not available for COVID-19 on N95s*

- 60°C-75°C for 30min inactivates related coronaviruses in solution<sup>1,2</sup>
- 70°C at 85% humidity for 30min inactivates H1N1 and H5N1 (flu (non-coronavirus) on N95<sup>3,4</sup>)
- Method does NOT inactivate all bacterial or mold spores on N95

**KEY CONSIDERATIONS**

- Data from tests on specific N95 models may not apply to other models
- N95s should be isolated and returned to original user
- N95 user seal check should be performed before each reuse
- Temperature should be stable and uniform

**IMPLEMENTATION**

- CDC has risk decontamin.
- Many device (warming ca
- Method has

**CONCLUSION**

Heat and humidity for N95 decontamination is currently unproven for relevant authorities. This is a low-cost technique that could be easy to thermal cycling may damage N95 fit and filtration. Moreover, this approach risks if risks are mitigated, this protocol merits future FDA!

**ONGOING RESEARCH**

2006; [2] Daniels & Taylor, 2004; [3] Behrens et al., 2005; [4] relevant risks, [5] Lohr et al., 2012; [6] PM, 2012; [7] Viru et al., 2006; [8] [9] [10] [11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42] [43] [44] [45] [46] [47] [48] [49] [50] [51] [52] [53] [54] [55] [56] [57] [58] [59] [60] [61] [62] [63] [64] [65] [66] [67] [68] [69] [70] [71] [72] [73] [74] [75] [76] [77] [78] [79] [80] [81] [82] [83] [84] [85] [86] [87] [88] [89] [90] [91] [92] [93] [94] [95] [96] [97] [98] [99] [100]

**COVID N95 DECON & REUSE**

**UV-C**

**QR CODE**

**N95 MASK INTEGRITY**

- Use appropriate UV-C source
- Use sensor to validate 1 J/cm<sup>2</sup> dose
- Expose both sides of N95 mask

**CORONAVIRUS INACTIVATION**

*Data not available for COVID-19*

- ≥1 J/cm<sup>2</sup> of UV-C inactivates viruses similar to SARS-CoV-2 on N95<sup>1,2,3</sup>
- ≥1 J/cm<sup>2</sup> of UV-C kills Bacillus subtilis spores on N95<sup>4,5</sup>
- UV-C light may not reach inner N95 layers for all N95 models<sup>6</sup>
- Straps may not be fully decontaminated by UV-C alone<sup>7</sup>
- Shadowing blocks UV-C rays & can leave parts of N95 contaminated

**KEY CONSIDERATIONS**

- Ensure accurate UV-C dose on front and back of N95
- Measure dose at N95 surface with calibrated sensor
- Keep N95s separate and return to original users
- Perform user seal check before each reuse
- Be aware that data from tests on specific N95 models may not apply to other models

**IMPLEMENTATION**

- Reference docu for implementa
- Validate each U ensure adequat

**CONCLUSION**

UV-C to ensure 1 J/cm<sup>2</sup> UV-C dose is SARS-CoV-2. This method

**COVID N95 DECON & REUSE**

**HYDROGEN PEROXIDE VAPOR & GAS PLASMA**

**QR CODE**

**N95 MASK INTEGRITY**

- N95 keeps fit and filter

**CORONAVIRUS INACTIVATION**

*Data not available for COVID-19 on N95s*

- Hydrogen peroxide inactivates viruses and highly-resistant bacterial spores<sup>1,2</sup>

**KEY CONSIDERATIONS**

- Data from specific N95 models may not apply to other models
- Trained personnel required - HPV and HPGP systems are dangerous
- N95s should be isolated and returned to original user
- N95 user seal check should be performed before each reuse
- Correct machine settings must be confirmed

**IMPLEMENTATION**

- CDC released guidance on HPV
- HPV systems have recently r
- Processing procedures for r
- HPGP systems are under r
- Systems and processes r
- Require trained personnel

**CONCLUSION**

Insufficient off-gas time and respirator respiratory and skin hazard

Some HPGP protocols reduce f

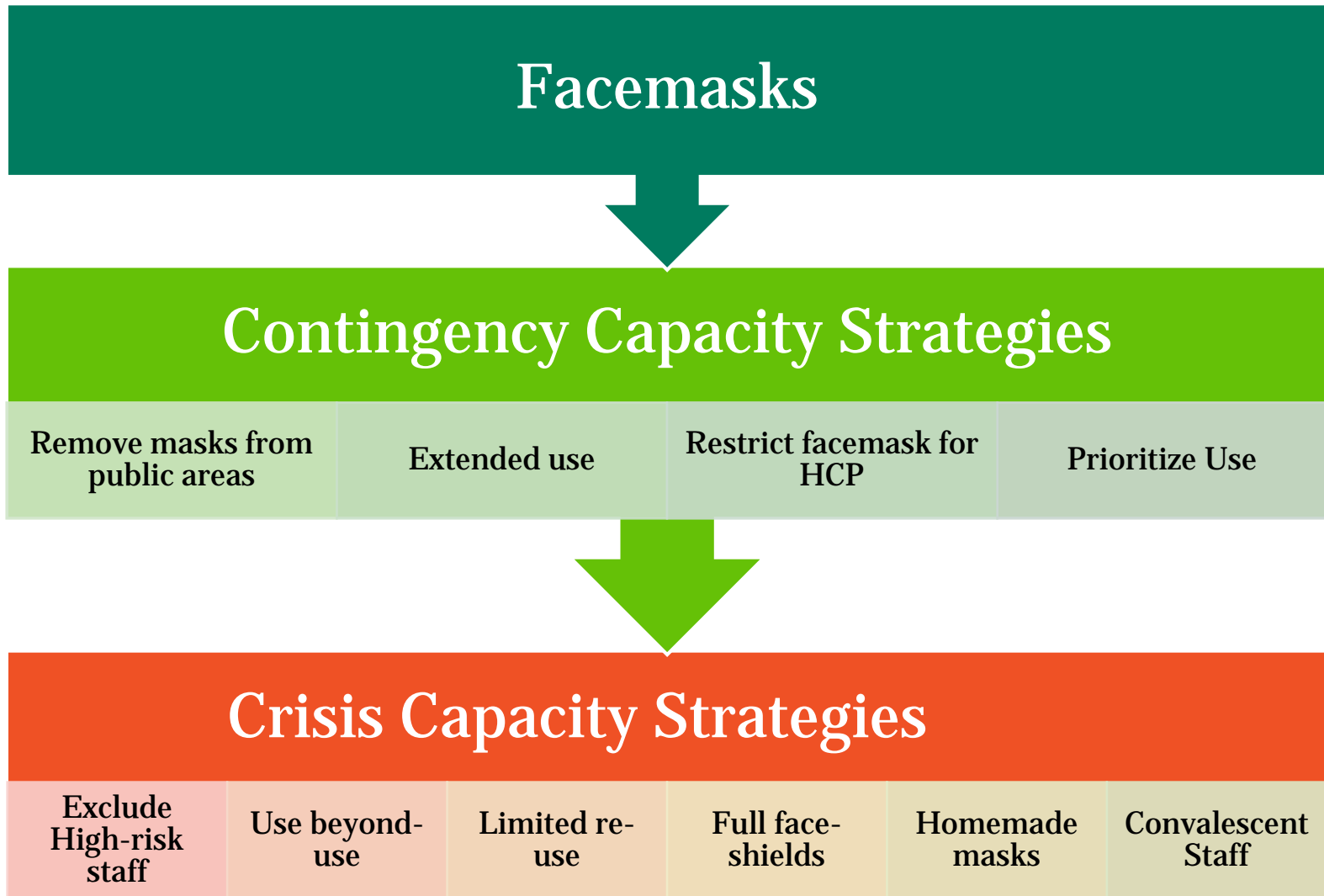
Insufficient dosing may lead to decontamination

Hydrogen peroxide is a po

Presents a combustion af



# CDC: Facemask Optimization Strategy





# Facemasks or Respirators from Home



## **ANNOUNCEMENT:** Joint Commission Statement on Use of Face Masks Brought From Home



The Joint Commission supports allowing staff to bring their own standard face masks or respirators to wear at work when their health care organizations cannot routinely provide access to protective equipment that is commensurate with the risk to which they are exposed. In taking this position, The Joint Commission recognizes:

1. Hospitals must conserve personal protective equipment (PPE) when these items are in short supply to protect staff who perform high-risk procedures.
2. The degree to which privately-owned masks and respirators will increase the protection of health care workers is uncertain, but the balance of evidence suggests that it is positive.
3. No Joint Commission standards or other requirements prohibit staff from using PPE brought from home.
4. Homemade masks are an extreme measure and should be used only when standard PPE of proven protective value is unavailable.

The evidence assessment and policy analysis that is the foundation of this statement may be found on page 2 of this document.



## **Frequently Asked Questions in Response to The Joint Commission's Position Statement on Use of Face Masks Brought from Home**

### ***Why did The Joint Commission feel it was necessary to develop this position statement?***

The Joint Commission's Office of Quality and Patient Safety has received numerous complaints from health care workers about inadequate personal protective equipment (PPE). For example, staff have reported:

- Lack of N95 masks for performing aerosolizing procedures
- Having to wear a surgical mask for a prolonged period (up to a week)
- Not being allowed to wear a mask when exposed to a large number of patients who could have COVID-19 (i.e., concerns about caring for asymptomatic and minimally symptomatic when COVID-19 is prevalent)
- Working without routinely wearing masks even after an outbreak occurred among the medical staff from an infected physician

The American College of Emergency Physicians and the American College of Physicians also shared similar concerns voiced by their members. We also have received reports of hospitals citing nonexistent Joint Commission standards to prevent staff from bringing their own PPE to work in shortage situations.

### ***Is The Joint Commission advocating for routine use of N95 masks?***

No. Hospitals must conserve N95 respirators as much as possible to protect staff who perform high-risk procedures that aerosolize viral particles. However, there are reports of hospitals not having enough N95 masks for all procedures that aerosolize viral particles. Such procedures include bronchoscopy, endotracheal intubation, positive pressure ventilation (BiPAP and CPAP), nebulizer treatment, sputum induction, airway suction, high frequency oscillatory ventilation, chest physiotherapy, and bronchoscopy. If a hospital cannot provide N95 masks for staff performing these procedures or working in the immediate vicinity, staff should be allowed to bring in their own masks.

***The statement says The Joint Commission supports allowing staff to bring their own masks or respirators to wear at work when their health care organizations cannot provide them with adequate protection commensurate with the risk of infection to which they are exposed by the nature of their work. What does this mean?***

Hospitals should be allowed to restrict staff from bringing in their own PPE if what they want to bring in is not justified by the person's level of risk of exposure to the SARS-CoV-2 virus. An engineer working in the basement of a hospital or someone working in food services has very low risk of work-related exposure, and it would be appropriate to prohibit these individuals from wearing masks. It also would be appropriate for a hospital to prohibit the routine use of N95 masks for personnel working in an area with no exposure to aerosolized viral particles. In contrast, if a hospital cannot provide N95 masks for staff who perform aerosolizing procedures or who work in close proximity to where aerosolizing procedures are done (e.g., emergency endotracheal intubation or nebulizer treatments in emergency departments), then the hospital should allow staff to bring in an N95 mask instead of just wearing a standard mask.

# Other PPE

# CDC: Eye\ Face Optimization Strategy

**Eye\ Face Protection**



**Contingency Capacity Strategies**

**Shift to re-usable devices**

**Extended use**

**Prioritize Use**



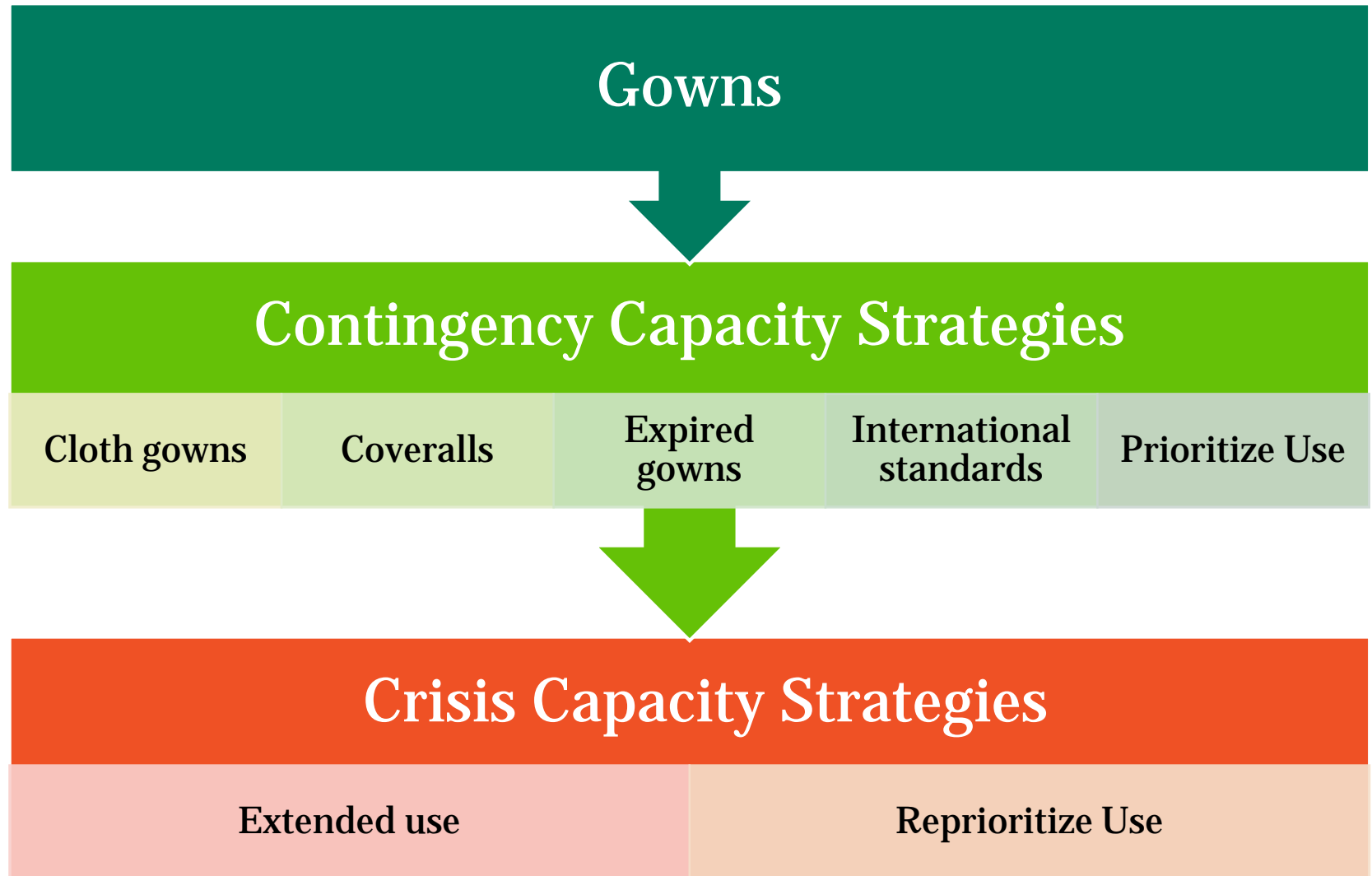
**Crisis Capacity Strategies**

**Use beyond shelf life**

**Re-prioritize Use**

**Alternative safety glasses**

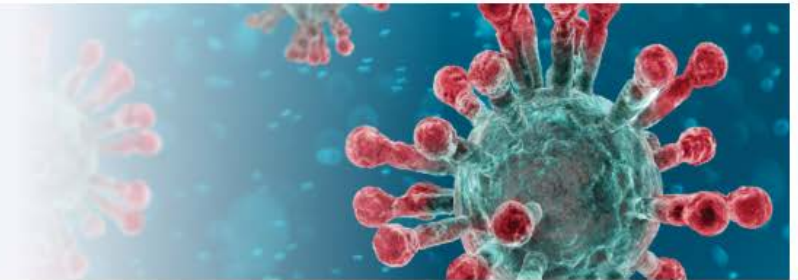
# CDC: Gown Optimization Strategy



# Extended Glove Use

## Coronavirus (COVID-19)

Trusted Guidance. Trusted Resources.



### FDA Guidance on Managing Critical Shortages

- [Conservation of Gloves](#)
- [Surgical Mask and Gown Conservation Strategies - Letter to Healthcare Providers](#)

**Note:** In reviewing FDA guidance on strategies to conserve gloves, you need to know what type of gloves you use in your facility (e.g., latex, vinyl and nitrile). It is safe to use alcohol-based hand rub on latex and nitrile gloves. But the FDA states that alcohol is not recommended for cleaning vinyl gloves because it may degrade them.

# Staff Health and Well-being

# Exposure Monitoring and Return to Work

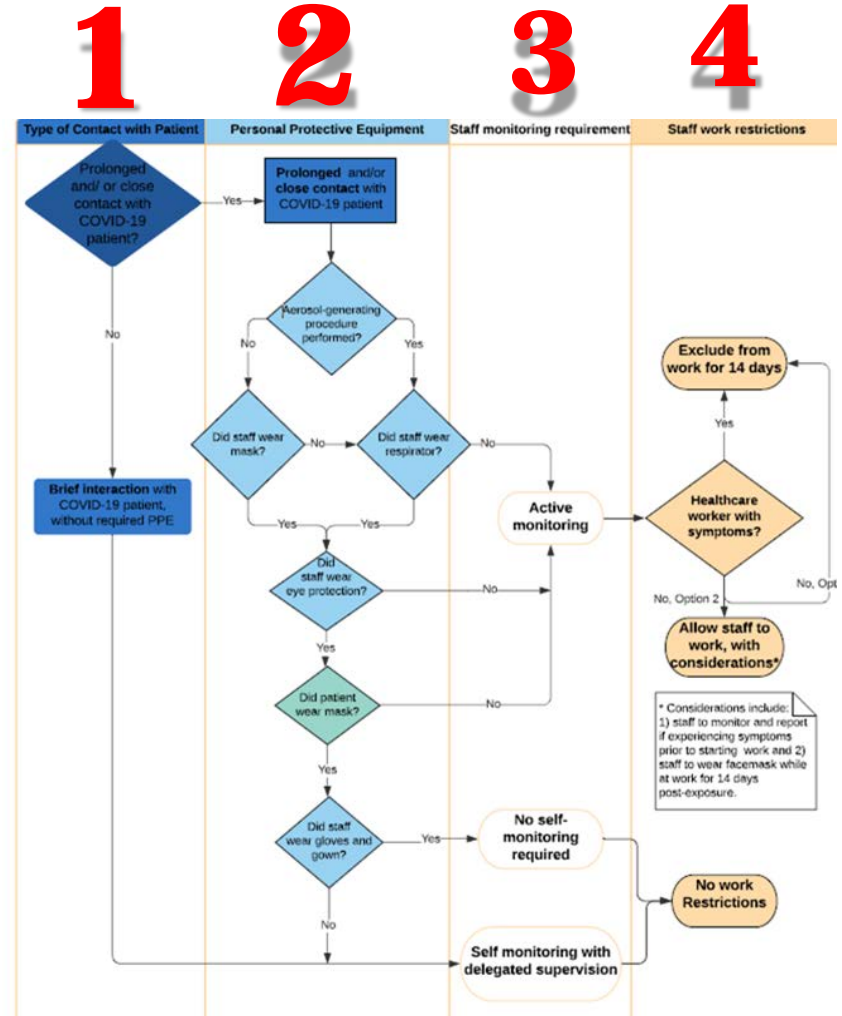
**1-** Level of exposure

**2-** PPE used



**3-** Symptom monitoring

**4-** Work restrictions





# Mental Well Being



- Communication
  - Updates/process changes
  - Share good news
  - Provide staff way to voice concerns
  - Limit non essential email, alerts
- Monitor time with COVID patients
- Encourage self-care
  - Meditation
  - Extracurricular activities



# Provide Reassurance and Reducing Stigma

## SHARE FACTS ABOUT COVID-19

Know the facts about coronavirus disease 2019 (COVID-19) and help stop the spread of rumors.

FACT  
**1**

Diseases can make anyone sick regardless of their race or ethnicity.

Fear and anxiety about COVID-19 can cause people to avoid or reject others even though they are not at risk for spreading the virus.

FACT  
**2**

For most people, the immediate risk of becoming seriously ill from the virus that causes COVID-19 is thought to be low.

Older adults and people of any age who have serious underlying medical conditions may be at higher risk for more serious complications from COVID-19.

FACT  
**3**

Someone who has completed quarantine or has been released from isolation does not pose a risk of infection to other people.

For up-to-date information, visit CDC's coronavirus disease 2019 web page.



15-21244-4 10/16/2020

FACT  
**4**

There are simple things you can do to help keep yourself and others healthy.

- Wash your hands often with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing; going to the bathroom; and before eating or preparing food.
- Avoid touching your eyes, nose, and mouth with unwashed hands.
- Stay home when you are sick.
- Cover your cough or sneeze with a tissue, then throw the tissue in the trash.

FACT  
**5**

You can help stop COVID-19 by knowing the signs and symptoms:

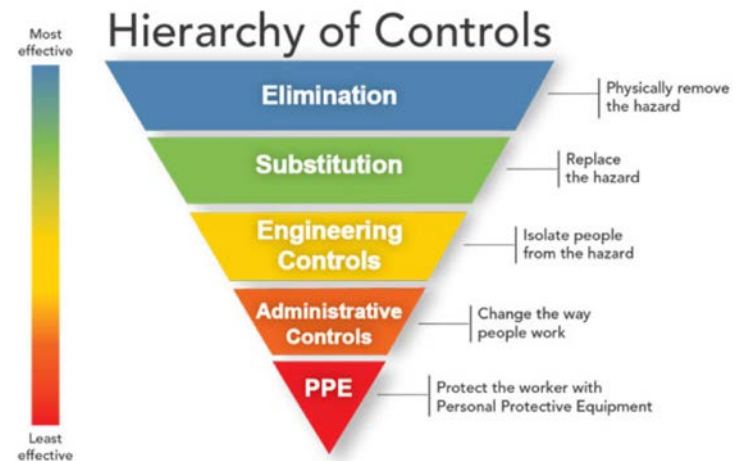
- Fever
  - Cough
  - Shortness of breath
- Seek medical advice if you
- Develop symptoms
- AND
- Have been in close contact with a person known to have COVID-19 or if you live in or have recently been in an area with ongoing spread of COVID-19.

[cdc.gov/COVID-19](https://www.cdc.gov/COVID-19)

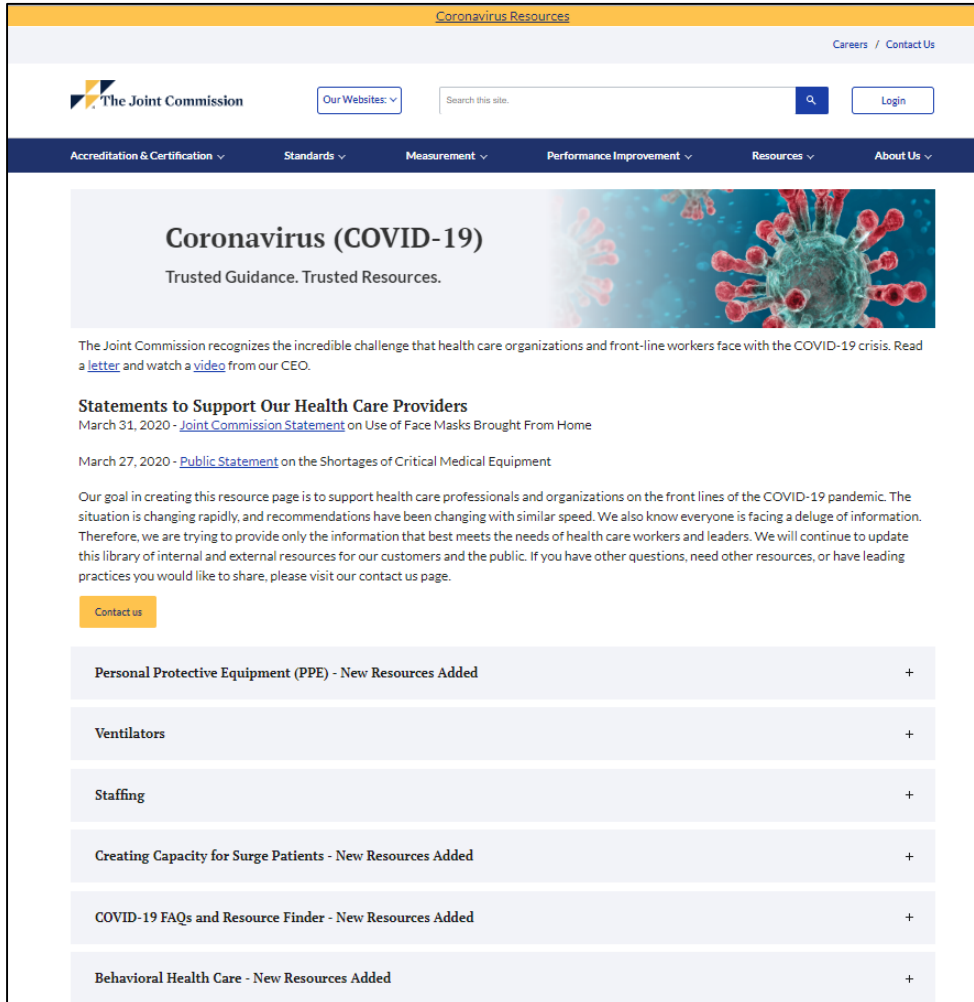
<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/reducing-stigma.html>

# Summary for COVID-19

- Organizations must have a holistic approach to anticipating and addressing issues
- Communicate and collaborate with front-line staff to implement solutions that provide for everyone's safety and well-being
- Use only credible sources for information and planning



# Resources: The Joint Commission



The screenshot shows the 'Coronavirus Resources' page on The Joint Commission website. The page features a navigation bar with links for Accreditation & Certification, Standards, Measurement, Performance Improvement, Resources, and About Us. A search bar and a 'Login' button are also present. The main content area is titled 'Coronavirus (COVID-19)' with the tagline 'Trusted Guidance. Trusted Resources.' Below this, there is a paragraph explaining the challenge health care organizations face and a 'Contact us' button. A list of resources is provided, each with a plus sign to expand the list:

- Personal Protective Equipment (PPE) - New Resources Added
- Ventilators
- Staffing
- Creating Capacity for Surge Patients - New Resources Added
- COVID-19 FAQs and Resource Finder - New Resources Added
- Behavioral Health Care - New Resources Added

<https://www.jointcommission.org/covid-19/>

# Questions?

Use the Standards Interpretation Site

<https://web.jointcommission.org/sigsubmission/sigquestionform.aspx>