



WISCONSIN DEPARTMENT
of HEALTH SERVICES

How to Operationalize Strategies to Optimize PPE

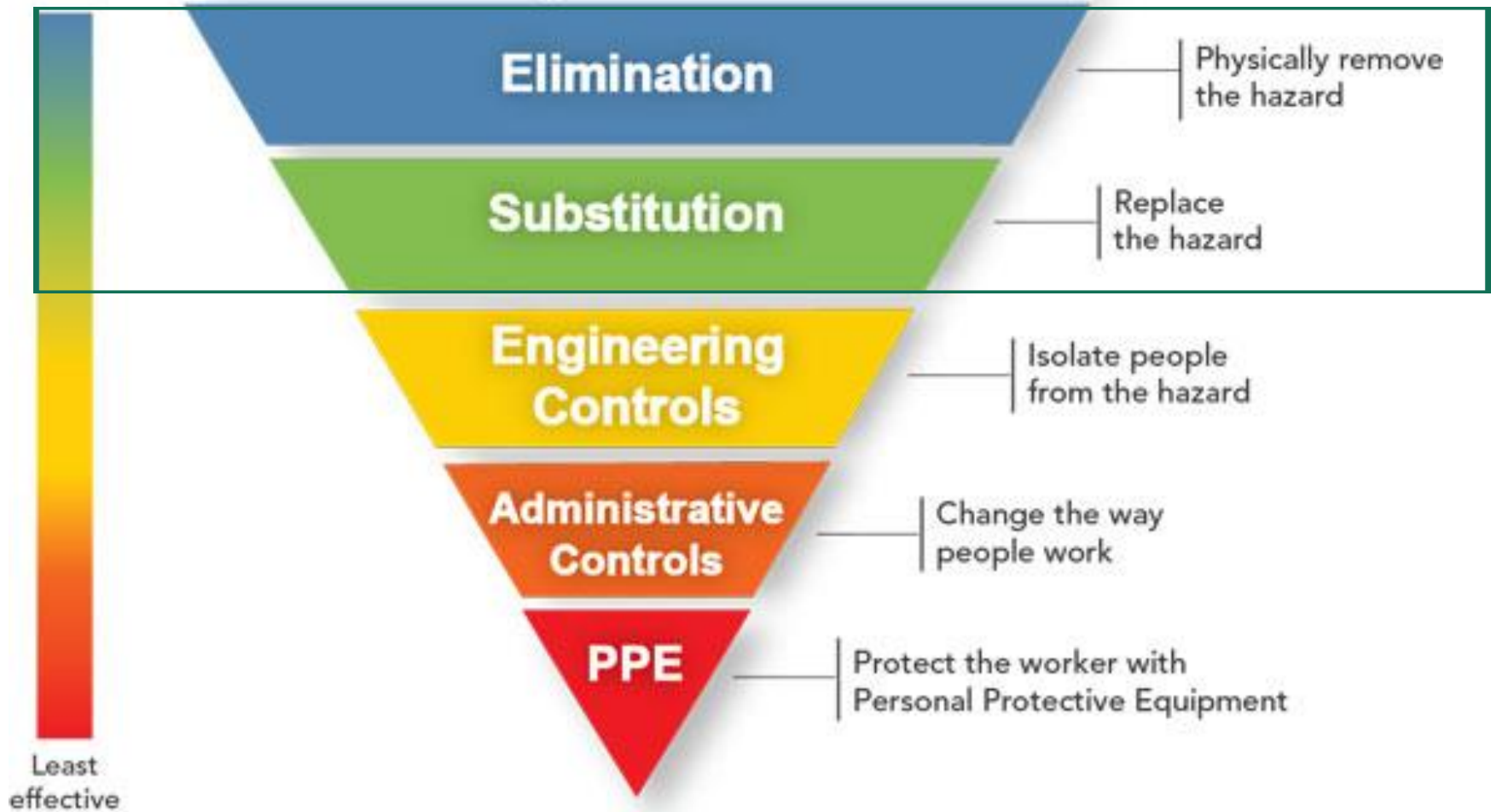
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Key Topics

- Hierarchy of Controls
- Review CDC recommended PPE
- Review Strategies to Optimize PPE
 - Optimizing gowns and N95 respirators during shortages

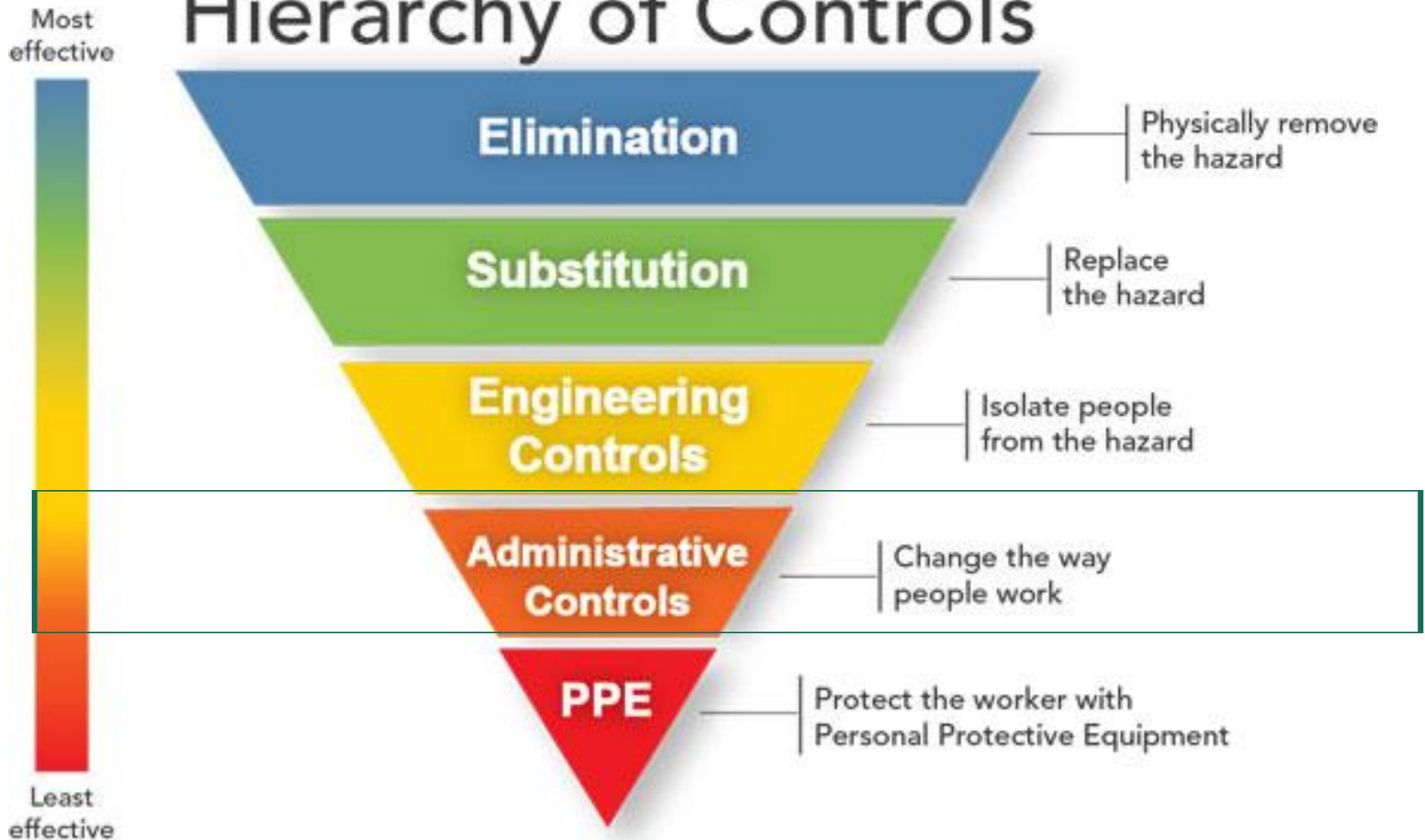
Hierarchy of Controls

Most
effective



Least
effective

Hierarchy of Controls



Hierarchy of Controls

Most
effective

Elimination

Physically remove
the hazard

Substitution

Replace
the hazard

**Engineering
Controls**

Isolate people
from the hazard

**Administrative
Controls**

Change the way
people work

PPE

Protect the worker with
Personal Protective Equipment

Least
effective

Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic

Updated May 22, 2020

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Summary of Changes to the Guidance

Below are changes to the guidance as of June 19, 2020:

- Reorganized recommendations into 2 sections:
 - Recommended infection prevention and control (IPC) practices for routine activities during the pandemic
 - Recommended IPC practices when caring for a patient with suspected or confirmed SARS-CoV-2 infection
- Added recommendations that were included in [FAQs](#) addressing:
 - Universal use of PPE for HCP working in facilities located in communities with moderate to sustained SARS-CoV-2 transmission
 - Considerations for pre-admission or pre-procedure SARS-CoV-2 testing
 - Creating a process for responding to SARS-CoV-2 exposures among healthcare personnel (HCP) and others

Preparing for COVID-19 in Nursing Homes

Updated June 25, 2020

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Summary of Changes to the Guidance:

- Tiered recommendations to address nursing homes in different phases of COVID-19 response
- Added a recommendation to assign an individual to manage the facility's infection control program
- Added guidance about new requirements for nursing homes to report to the National Healthcare Safety Network (NHSN)
- Added a recommendation to create a plan for testing residents and healthcare personnel for SARS-CoV-2

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Background

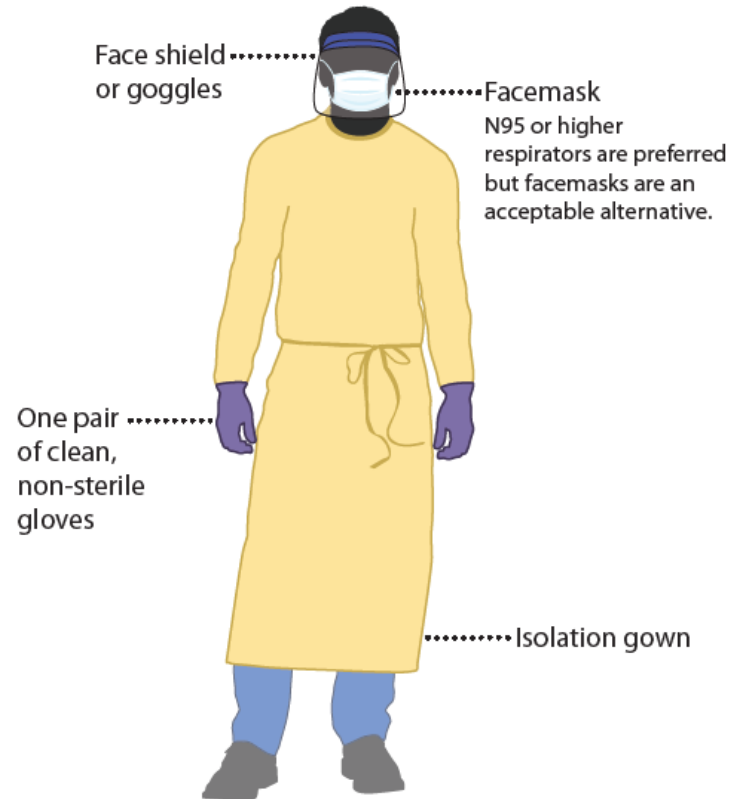
Given their congregate nature and resident population served (e.g., older adults often with underlying chronic medical conditions), nursing home populations are at high risk of being affected by respiratory pathogens like COVID-19 and other pathogens, including multidrug-resistant organisms (e.g., Carbapenemase-producing organisms, *Candida auris*). As demonstrated by the COVID-19 pandemic, a strong infection prevention and control (IPC) program is critical to protect both residents and healthcare personnel (HCP).

COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

Preferred PPE – Use N95 or Higher Respirator



Acceptable Alternative PPE – Use Facemask



cdc.gov/COVID19

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HEALTHCARE WORKERS

Strategies to Optimize the Supply of PPE and Equipment

Updated May 18, 2020

[Print Page](#)


Personal protective equipment (PPE) is used every day by healthcare personnel (HCP) to protect themselves, patients, and others when providing care. PPE helps protect HCP from potentially infectious patients and materials, toxic medications, and other potentially dangerous substances used in healthcare delivery.

PPE shortages are currently posing a tremendous challenge to the U.S. healthcare system because of the COVID-19 pandemic. Healthcare facilities are having difficulty accessing the needed PPE and are having to identify alternate ways to provide patient care.

Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of PPE during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve PPE supplies along the continuum of care.

[Eye Protection](#)
[Isolation Gowns](#)
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[Facemasks](#)
[N95 Respirators](#)
[Powered Air Purifying Respirators](#)
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CDC PPE Optimization Strategies

Offer a continuum of options for use when PPE supplies are stressed, running low, or absent.

Contingency and then crisis capacity measures augment conventional capacity measures and are meant to be considered and **implemented sequentially**.

Three Strategies to Optimize the Supply of PPE

1

- Conventional Capacity

2

- Contingency Capacity

3

- Crisis Capacity

4

- When No _____ Are Available

Implementing Contingency & Crisis Strategies for Isolation Gowns

- Facilities understand their:
 - Isolation gown inventory
 - Supply chain
 - Isolation gown utilization rate
- Facilities are communicating with:
 - Local healthcare coalitions
 - Federal, state and local public health partners regarding identification of additional supplies

Implementing Contingency & Crisis Strategies for Isolation Gowns

- Facilities have already implemented other engineering and administrative control measures
- Facilities have provided HCP with:
 - Required education and training to include demonstrating competency in donning and doffing any PPE that is used.

Contingency Strategy

Isolation Gowns

- Shift gown use towards cloth isolation gowns
- Consider the use of coveralls
- Use expired gowns beyond the manufacturer-designated shelf life for training
- Use gowns or coveralls conforming to international standards

Crisis Strategy

Isolation Gowns

- Extended use of isolation gowns
- Re-use of cloth isolation gowns
- Prioritize gowns
 - Care activities where splashes and sprays are anticipated (aerosol generating procedures)
 - High contact resident care activities

Implementing Contingency Strategy for N95 Respirators

- Facilities understand their:
 - N95 respirator inventory and supply chain
 - N95 respirator utilization rate
- Facilities communicating with local healthcare coalitions...
- Facilities have **already implemented conventional capacity measures**

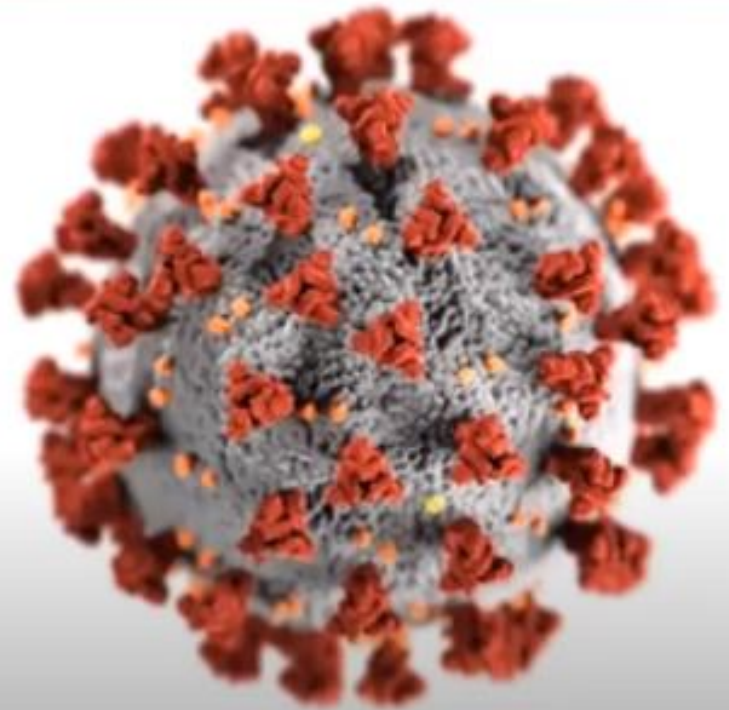
Conventional Strategy

N95 Respirators

- N95 Respirators
- Use of Alternatives to N95 respirators
 - N99, N100, P95, P99, P100, R95, R99, R100
 - Elastomeric respirators
 - PAPRs

Elastomeric Respirators for U.S. Healthcare Delivery

Key Considerations



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For more information: www.cdc.gov/COVID19



🏠 Healthcare Workers

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Eye Protection

Isolation Gowns

Gloves

Facemasks

N95 Respirators

Powered Air Purifying Respirators

Elastomeric Respirators

Ventilators

Operationalizing Optimization Strategies

- Planning
 - Current inventory and supply chain
 - Utilization Rate
 - Projections based on utilization rate
 - Communication with vendor(s), healthcare coalitions, state/local public health and emergency management partners

Resources

- [DHS COVID-19: Personal Protective Equipment \(PPE\)](#)
- [Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the COVID-19 Pandemic](#)
- [Preparing for COVID-19 in Nursing Homes](#)
- [Strategies to Optimize the Supply of PPE and Equipment](#)