

COVID-19 Response: Optimizing Use of Personal Protective Equipment (PPE)

Updated March 4, 2020

The Massachusetts Department of Public Health (DPH) continues to work with state, federal and local partners on the outbreak of novel Coronavirus 2019 (COVID-19), caused by the virus SARS-CoV-2. The purpose of this communication is to inform health care facilities on strategies to optimize the use of Personal Protective Equipment (PPE).

The Centers for Disease Control and Prevention (CDC) recommends the use of a hierarchy of controls in health care settings to prevent transmission of COVID-19 infections. The optimal way to prevent COVID-19 is to use a combination of interventions from across the hierarchy of controls, not just PPE alone. Applying a combination of controls can provide an additional degree of protection, even if one intervention fails or is not available.

The ongoing COVID-19 outbreak has resulted in reductions in the global supply of available PPE. To address this issue, in addition to implementing the interventions described in the table below, the CDC and DPH recommend the following strategies:

- Prioritize use of N95 respirators for those healthcare personnel (HCP) at the highest risk of acquiring infection
- Use N95 respirators beyond the manufacturer-designated shelf life for training and fit testing
- Implement just-in-time fit testing: Plan for larger scale evaluation, training, and fit testing of employees when necessary
- Use alternatives to N95 respirators where feasible (e.g., other disposable filtering facepiece respirators, elastomeric respirators with appropriate filters or cartridges, powered air purifying respirators)
- Implement HCP caring for patients in isolation precautions, which should only include the minimum number of individuals necessary for ensuring proper patient care
- Implement measures to control PPE stock to prevent unauthorized use or removal of PPE, while avoiding unintentionally discouraging use when indicated

HIERARCHY of CONTROLS

Control Type	Description
Engineering Controls	Engineering controls reduce exposures for HCP by placing a barrier between the hazard and the HCP. Engineering controls can be part of a suite of strategies to protect HCP without placing primary responsibility of implementation on them. <ul style="list-style-type: none">• Patients with known or suspected COVID-19 should be placed in an airborne infection isolation room (AIIR) if available. If AIIR is not available, patient should be placed in an examination room with the door closed.• Placement of physical barriers. Examples include as glass/plastic windows in reception areas where patients may first report or arrive to

	<p>health-care facility.</p> <ul style="list-style-type: none"> • Ventilation systems (clean-to-contamination flow direction).
Administrative Controls	<p>Administrative controls are employer-dictated work practices and policies that reduce or prevent hazardous exposures. Examples include:</p> <ul style="list-style-type: none"> • Limiting the number of patients going to hospital or outpatient settings by screening patients for acute respiratory illness prior to their non-urgent care or elective visits or procedures. • Using telemedicine to triage persons to the appropriate level of care, potentially reducing the influx of patients to healthcare facilities seeking evaluation. • Allowing only essential personnel enter the patient care area, and that facilities consider caring for these patients with dedicated HCP. • Source control • Cohorting patients by grouping together patients who are infected with the same organism to confine their care to one area and prevent contact with other patients. • Assigning designated teams of HCP to provide care for all patients with suspected or confirmed COVID-19 could minimize respirator use. • Just in time fit testing
Personal Protective Equipment and Respiratory Protection	<p>While engineering and administrative controls should be considered first when selecting controls, the use of PPE should also be part of strategies used to protect HCP.</p> <ul style="list-style-type: none"> • HCP should adhere to Standard, Contact, and Airborne Precautions, including the use of eye protection (e.g., goggles or a face shield) when caring for suspect and confirmed COVID-19 patients. • NIOSH approved fit-tested N-95 respirator or higher such as a powered air-purifying respirator (PAPR), eye protection (e.g., goggles, or a disposable face shield that covers the front and sides of the face). isolation gown and nonsterile gloves.

If a potential shortage of PPE is identified within a facility **after** taking these measures, health care facilities should utilize resources across their organization (including established supply chain processes), check with mutual aid partners, and if needed contact the appropriate regional Health and Medical Coordinating Coalition (HMCC) for resource support.

If a request cannot be fulfilled locally or within the region, the HMCC will advance the request to DPH. DPH will coordinate with our regional partners to understand and address shortages as they arise.

To determine regional capabilities, please contact your regional HMCC:

Region	Website	24/7 Regional Duty Officer Phone	Duty Officer Email NOT monitored 24/7

Region 1	https://region1hmcc.org/	413-773-1502	hmcc@frcog.org
Region 2	https://archecoalition.org/	508-408-5173	N/A
Region 3	https://hmccreg3.org/	978-946-8130	dutyofficer@hmccreg3.org
Region 4AB	https://mrpcoalition.org/	857-239-0662	mrpcdutyofficer@challiance.org
Region 4C	https://bphc.org/Pages/default.aspx	617-343-6920	mic@bphc.org
Region 5	https://www.region5hmcc.com/	855-266-7243 ID# 32432	dutyofficer@region5hmcc.com

CDC has released updated guidance that provides strategies for optimizing the supply of N95 respirators. Please review the guidance, Checklist for Healthcare Facilities: Strategies for Optimizing the Supply of N95 Respirators during the COVID-19 Response, which is available online:

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/checklist-n95-strategy.html>

DPH appreciates the essential role you have in responding to this evolving situation. To date, DPH has confirmed a single case of COVID-19 in Boston, on Saturday, February 1 and has identified a presumed case of COVID-19 in Norfolk County on Monday, March 2. The risk to Massachusetts residents continues to remain low at this time.

We want to remind you that the risk to our residents for COVID-19 is low, but the risk for flu is high. It remains more likely that Massachusetts residents will contract the influenza virus than COVID-19.

DPH's website provides up-to-date information on COVID-19 and resources:

<https://www.mass.gov/2019coronavirus>