



**Special Communication to City of Burlington  
Emergency Operations Center and Mayor  
Regarding COVID-19**

**To:** Brian Lowe

**From:** Meagan Tuttle of City Analytics Team

**RE:** Utilization of Facemasks by individuals during pandemic

**Date:** March 22, 2020, 4:30pm

**Updated: March 30 to include new article links**

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**Key Messages:**

- There is [some evidence from prior outbreaks that wearing a mask, especially in combination with good hand washing, can reduce COVID transmission.](#)
- While few studies are available that offer a definitive conclusion on the impact of mask usage by the general public, some have noted that it is reasonable for all vulnerable individuals to wear masks when in public places. There is currently consensus from the WHO and CDC that the those who are sick should wear a mask.
- CDC and WHO currently do not recommend the use of commercial grade PPE masks for the general public, unless they are sick or caring for someone who is sick. However, some studies suggest that individual usage of homemade masks when in public can help reduce transmission.
- Particularly as it becomes [clearer that people can transmit the virus while asymptomatic](#), and that perhaps half of all patients are asymptomatic, widespread mask use makes sense. As of March 30, Germany and Australia are considering making mask usage compulsory, with Australia requiring usage in grocery stores.
  - Requiring mask use will require sufficient supply and distribution channels for those who have followed CDC guidance to date and not purchased masks.
- Mask use by all may help eliminate the stigma associated with wearing a mask and identifying yourself as sick – if everyone has to, sick or not, compliance among the sick may increase.
- According to the CDC, homemade mask are not considered PPE, and usage by HCP's should be considered only as a last resort when there is no supply of PPE available. Homemade masks may be more effective for use over an N95 to extend its life, and any usage of homemade masks by HCP's should be in conjunction with other methods such as a face shield.

**Important Note Regarding this Document:** *The coronavirus pandemic, and local, state and federal guidance/orders regarding this pandemic, are rapidly evolving. Information contained in this memo is presumed to be accurate and reflective of the situation as of the date and time noted above. Information in this memo is offered as review of actions, events, case studies, and data based on specific requests of and research by the Analytics Team. The original audience for this document was the Mayor and members of the City's Emergency Operations Center. These resources are being made available in the event that they may be informative for other Vermont communities.*

## Key Resources

- [World Health Organization: Advice for the Public on when and how to use a mask](#)
- [CDC Guidance for Individuals to Prevent Getting Sick](#)
- [CDC Report on Asymptomatic Transmission in Washington State](#)
- [Testing the Efficacy of Homemade Masks: Would they protect in an Influenza Pandemic?](#)
- [CDC: Article on Simple Respiratory Mask](#)
- [Do Masks Protect Against Coronavirus?](#)
- [More Americans Should Probably Wear Masks for Protection](#) (NYT)
- [Effectiveness of Surgical Masks Against Influenza Bioaerosols](#) (Journal of Hospital Infection)

## Summary of Research

### Facemasks for HCPs

Personal Protective Equipment (PPE) is an essential tool for healthcare providers (HCP), first responders, and other frontline workers in the COVID-19 pandemic. Many efforts are underway to ramp up the production and redistribute the available supply of N95 and hospital grade facemasks. The CDC has produced guidance on [Optimizing the Supply of PPE](#), including Facemasks, which consider the utilization rate and appropriateness of various PPEs during conventional, contingency, or crisis capacity.

There have been numerous calls for and individuals offering to begin preparing non-commercial grade masks, sewn by volunteers and utilizing common household materials. It is important to note that the CDC guidance recommends the use of homemade masks by HCP only as a last resort when there is no supply of PPE available. While [some testing suggests](#) that while homemade masks are better than no protection in crisis capacity, they are not advised as a PPE method. Surgical masks may also offer some modest protection over nothing at all, based on research on influenza. CDC advised that caution should be exercised when deciding to use homemade masks, and that they should ideally be used in conjunction with a face shield.

### Facemasks for Individuals

Presently, the CDC is not recommending that the general public use commercial-grade PPE for personal use unless they are sick or caring for someone who is sick, in order that they be preserved for these frontline workers. However, evidence suggests that individual use of homemade facemasks when in public may help limit community transmission of influenza. This could be translatable to current efforts to slow the rate of transmission of COVID-19, particularly as a significant number of infected individuals are asymptomatic.

[A 2013 study](#) suggests that during an influenza pandemic, the use of masks for individuals when in public could help significantly reduce transmission if utilized widely, but that only approximately 50% of individuals utilize them. It found that improvised facemask could be useful for aerosol organisms for which particles are of a similar size to influenza fresh. This [article from a CDC publication](#) advises that boiled (washed), unused 100% cotton t-shirts were the most suitable household material for preparing these masks.

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