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COVID-19 and improved prevention of hospital-acquired infection

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Editor—The hospital-acquired infection rate is a hallmark metric for quality of care in US hospitals, where 7 million infections occurred while being treated for other ailments in 2018.¹ During the coronavirus disease 2019 (COVID-19) pandemic, clinicians have practiced prevention of nosocomial pneumonia vigilantly. Many hospitals in the USA implemented their own protective measures as a response to the ongoing COVID-19 pandemic even before the US Centers for Disease Control and Prevention (CDC) recommended voluntary mask wearing in the public. Even with these extra precautionary measures, healthcare workers have been disproportionately infected, with 9282 reported cases of COVID-19, resulting in 27 deaths, with 55% of respondents saying they contracted the virus while at work based on a report from the CDC on April 9, 2020.² Interventions to impede early spread of COVID-19 were not nearly effective enough and resulted in a fatality rate as high as 5.8% in some populations compared with the 0.5% fatality rate for seasonal flu in the USA, which is why new protocols and early prevention need to be implemented in the future.³

The current threat of COVID-19 not only affects healthcare workers on the frontline, but also increases exposure to their family members. According to the first 262 cases in Beijing, China, 50.8% of cases involved family clusters.⁴ Because of this, many healthcare providers opt to isolate themselves from their families after work, staying in their garage or basement, or renting a hotel room or apartment to avoid spreading the virus from the hospital setting. However, the consequences of these protective measures and physical distancing policies are detrimental to their mental health. In the last week of April 2020, there has been two documented cases of healthcare worker suicide, with an abundance of other mental health issues, including anxiety, depression, and post-traumatic stress disorder escalating as well.⁵

We are now entering a transition period of gradually reopening the economy across the world. In doing so, vital questions must be acknowledged: (i) Should the use of surgical masks for both healthcare providers and patients in all our medical facilities be required until a proper vaccine or treatment is developed? (ii) Should the current universal mask policy become the new normal? Both of these protocols may prove beneficial after the pandemic to prevent hospital-acquired respiratory infections, especially during the annual flu season.

Based on data from the European CDC³, there are distinct mortality curves between geographical areas. In contrast to Europe and North America that have been especially burdened by COVID-19 and only advocated for social distancing and handwashing, countries in Asia with visibly lower mortality and infection rates shared the common practice of protective masking and handwashing (Fig. 1). One explanation for the phenomenon could be that face masks prevent or slow rates of transmission especially in dense populations.

As a result of these initial findings, the CDC began advocating for face coverings in public on April 3, 2020, which was contradictory to the original guidelines to not wear masks because of shortages of personal protective equipment (PPE) for medical personnel. Mask wearing has now been mandated for use in public in many states. These mask wearing guidelines are especially important in highly dense populations, such as New York City, where there are high numbers of both confirmed COVID-19 cases and deaths. Practicing distancing for people living in this environment is nearly impossible, so implementation of stay-at-home orders is key to flattening the curve in such areas. Hospitals face a similar issue with social distancing and the limitations of physical space, such as inside elevators and clinical rooms, so additional guidelines to protect healthcare workers are necessary. To combat hospital-acquired infections, we

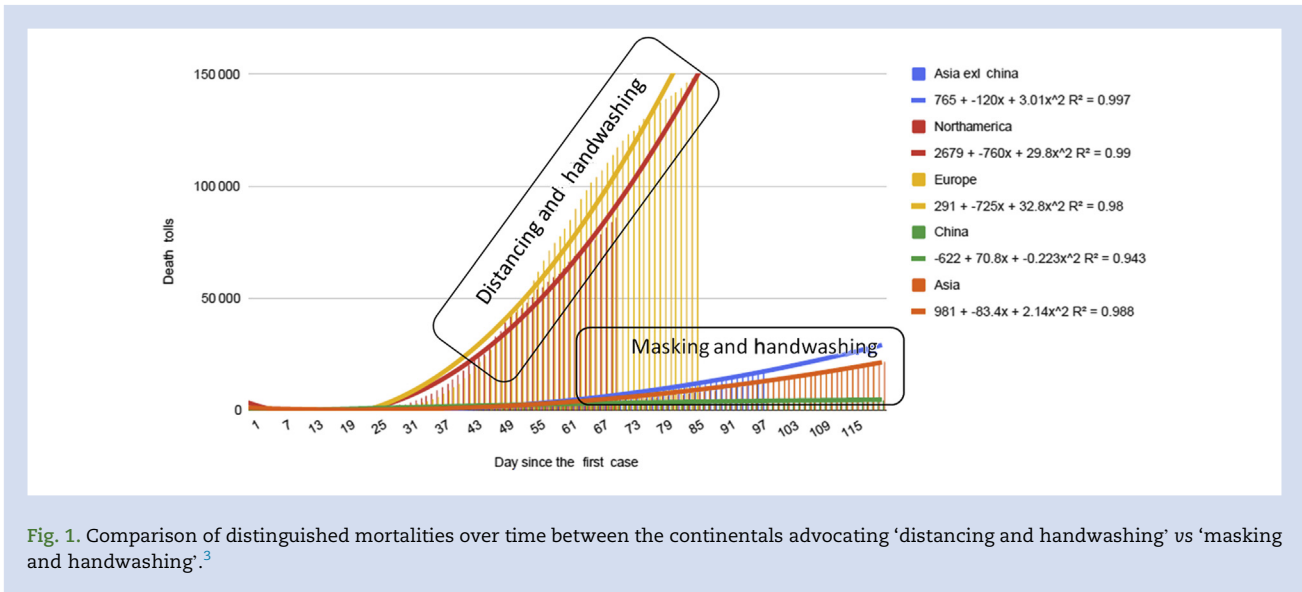


Fig. 1. Comparison of distinguished mortalities over time between the continentals advocating ‘distancing and handwashing’ vs ‘masking and handwashing’.³

propose to continue safe mask wearing practices as a standard of care going forward.

Physical contact is the primary mechanism by which healthy people are exposed to severe acute respiratory syndrome coronavirus 2. Wearing masks is the most cost-effective way to slow viral spread and allow reopening of society. Experts in the field and lessons learned from other countries recommend that protective masks be worn by healthcare workers, patients, and their visitors, and this should become the new normal. The director of the CDC predicts that this will be one of the most important approaches to easing the burden of a possible resurgence of COVID-19 and flu in autumn. Not all hospitals require universal mask policies for all personnel in the hospital or medical staff.⁶ With the shortages in proper PPE and the staunch culture of independence in the USA, it is understandable that implementing these protocols is difficult. However, without radical changes in attitudes and beliefs within the hospital setting and beyond, more frontline healthcare workers and others will be infected. We urge government officials and policymakers to evaluate and promote infection control measures, and prioritise frontline medical workers, their families, and their patients. We should take this opportunity to ease not only the challenges from the COVID-19 pandemic, but also other hospital-acquired infections, such as seasonal flu.

Declarations of interest

The authors declare that they have no conflicts of interest.

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COVID-19 and cardiopulmonary resuscitation: an N95 respirator mask may not be adequate

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