

Stepping on the brakes of the DeLorean: Considerations before implementing universal masking

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To the Editor—Kalu *et al.* propose that universal masking in routine patient-care interactions be made a permanent component of standard precautions. This topic is important to consider given the experiences over the past few years of the COVID-19 pandemic, but it warrants fulsome consideration of the evidence and potential harms/costs prior to widespread implementation.

There is a long history in medicine of implementing interventions based on expert opinion and/or observational data, with subsequent randomized controlled trial (RCT) data showing that the intervention is not effective or even harmful.² We note that the studies cited by the authors as evidence in support of universal masking are laboratory-based simulations and observational studies.¹ However, laboratory studies do not take into account human factors and adherence with interventions under real-world conditions. Observational studies are subject to numerous biases and cannot prove that the intervention caused the observed outcome. Indeed, a recent systematic review of RCT evidence of masks for preventing transmission of respiratory viruses was unable to draw firm conclusions as to their effectiveness.³ In particular, the 2 included RCTs of universal masking among healthcare workers (HCWs) prior to the COVID-19 pandemic showed no statistically significant decrease in influenza-like illness, with wide confidence intervals.^{4,5} The systematic review did not find any RCTs of universal masking in HCWs during the pandemic, but the lack of clear benefit for prevention of COVID-19 in community-based studies suggests that this is an a topic worthy of further study.

Even if universal masking was proven to be effective at preventing transmission, the benefit of any intervention has to be weighed against the costs and the risks. Clearly there are financial costs to purchasing masks, and a formal cost-benefit analysis would be worthwhile to determine the cost of preventing each transmission event. In addition, it is important to consider the environmental cost of disposing of large numbers of masks, including the addition of many tons of waste into landfills and the release of heavy metals and volatile organic compounds as the masks degrade.⁶ Although the goal is to have no transmission of infections within healthcare settings, resources are limited and consideration of whether there may be a point of diminishing returns is warranted. For example, how much additional benefit is there with masking all the time versus with symptomatic patients only, or with patients at high risk for severe infection?

Furthermore, there are potential adverse events related to universal masking. Although this has not been consistently

measured, up to 75% of participants in mask RCTs report adverse events.³ Even among HCWs, 40.4% reported adverse events in one of the studies, most commonly discomfort and breathing difficulties.⁵ Also, potential harms to patients that are not often assessed in studies and may be difficult to quantify can significantly affect patient care. For example, patients who have difficulties with hearing or language may face barriers in communicating with masked HCWs. Finally, universal mask policies generally result in extended use of masks, which may paradoxically increase the risk of healthcare-associated infections as HCWs wear more heavily contaminated masks in their interactions with patients.⁷ This was the traditional reason for changing masks between patients, a habit that has been lost without study during the pandemic.

Although the COVID-19 pandemic has raised awareness at a societal level of the need to ensure HCW and patient safety, we urge our colleagues in infection prevention and control and public health to apply the principles of evidence-based medicine, to carefully study the impacts, and to quantify the real-world benefits prior to recommending the implementation of universal masking as a permanent part of standard precautions.

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References

1. Kalu IC, Henderson DK, Weber DJ, Haessler S. Back to the future: redefining "universal precautions" to include masking for all patient encounters. *Infect Control Hosp Epidemiol* 2023;44:1373–1374.
2. Prasad VK, Cifu AS. *Ending Medical Reversal*. Baltimore: Johns Hopkins University Press; 2015.
3. Jefferson T, Dooley L, Ferroni E, *et al.* Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst Rev* 2023; 1:CD006207.
4. Jacobs JL, Ohde S, Takahashi O, *et al.* Use of surgical face masks to reduce the incidence of the common cold among healthcare workers in Japan: a randomized controlled trial. *Am J Infect Control* 2009;37:417–419.
5. MacIntyre CR, Seale H, Dung TC, *et al.* A cluster randomised trial of cloth masks compared with medical masks in healthcare workers. *BMJ Open* 2015;5:e006577.
6. Li ASH, Sathishkumar P, Selahuddeen ML, *et al.* Adverse environmental effects of disposable face masks due to the excess usage. *Environ Pollut* 2022;308:119674.
7. Chughtai AA, Stelzer-Braid S, Rawlinson W, *et al.* Contamination by respiratory viruses on outer surface of medical masks used by hospital healthcare workers. *BMC Infect Dis* 2019;19:491.

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