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## We need more support and less normalcy to stop airborne viruses

Governments should be investing in a thorough redesign of how our air is filtered in public spaces, says Abraar Karan

Abraar Karan *infectious disease doctor*

A recent poll by the Kaiser Family Foundation (KFF) assessing public opinion on the covid-19 pandemic after two years found that unvaccinated adults, Republicans, and white adults were most likely to say they never changed the level of activities they engaged in during the pandemic or had returned back to normal.<sup>1</sup> Nearly half of those with household incomes greater than \$90 000 said the same. In contrast, black adults, those with chronic conditions, and those living in households with incomes less than \$40 000 were the most likely to say they were doing very few of the activities they did before the pandemic had started.

In the United States and Europe, there have been major pushes to have the public return to “normal,” an unclear gesture suggesting perhaps a world before covid-19. But this is a false promise, and is instead a justification for perpetuating the conditions that left many countries so vulnerable to covid-19 to begin with. Key among these are the inequities that have seen people live through strikingly different experiences of the pandemic.

For instance, isolating at home may pose notably lower risks if you are wealthy and health literate. You may have extra rooms where family members can self-isolate—a study from the US Centers for Disease Control and Prevention showed that having the ability to isolate in a separate room was associated with significantly lower odds of transmitting covid to family members during the omicron surge.<sup>2</sup> You may be able to afford HEPA filters—studies have shown that higher levels of infectious aerosols in the air are associated with higher risk of transmission to others.<sup>3</sup> You may have the time and knowledge to procure high filtration N95 masks for everyone in your home. And, through these efforts, you may very well avoid the rest of your family getting sick with covid-19. In addition, if you work in a job that can be done from home, you may be right back to getting your paycheck without having to wait in isolation.

Now consider if you were living in a small, crowded home or apartment where isolating in a separate room is not possible. Imagine if you did not have the funds to buy a portable HEPA filter; did not have the knowledge about how to construct low cost air filtration devices<sup>4</sup>; and worked a job in which you were on the frontlines and could not simply continue it from home. Tack on to this the possibility you did not receive paid time off from work and you are left now with the choice of whether to work while sick, or be both sick and unpaid.

Many patients who I treated had to make these choices. Many infected their entire families. Many died or were left with ongoing health complications.

And the data reflect this as well. In a study of low income, primarily Hispanic families, household transmission of SARS-CoV-2 was found to be much higher than in most other studies examining the general population; and risk of disease spread was associated with lower household incomes.<sup>5</sup>

The KFF poll was particularly alarming to me because poorer communities bore the brunt of the pandemic during every wave. On top of this, they were often blamed in many countries (as they have been throughout history) for spreading a virus that eventually affected the wealthy. Now, we are seeing poorer people, often from ethnic minority communities, trying to protect themselves without the luxury of returning to “normal” for fear that they could get sick again during upcoming waves, some of which have already started, as in the UK. If wealthy people who are unmasked are now the harbingers of disease to the rest of society, will people who’ve been marginalised be able to hold them accountable? I know they will not.

The answer is not to mask forever or to fall back on any of the other false, extreme dichotomies that are often presented. With an airborne virus, the impetus lies on the government to protect us all through a thorough redesign of how our air is filtered. In the hospital, when we are dealing with an airborne pathogen, we don’t just wear N95 masks. We also place those patients in rooms with increased air changes, HEPA filters, and in negative pressure rooms as well. Yet, for the general public, our leaders have focused mostly on masking and far less on the engineering controls that they could create to protect us. Just like we had revolutions in clean water or sewage disposal, or how we fundamentally improved roads when automobiles came into existence, so too must we revolutionise the cleaning of the air we share and breathe in public spaces. Anything short of this will fundamentally leave us vulnerable to this and future respiratory viruses.

Instead, the governments of many countries have turned responsibility over entirely to their citizens, advising them to mask (if they wish to) and get vaccinated. We know that masking can help reduce the spread of covid but as a strategy it is unsustainable indefinitely. We also know that while vaccines can protect us from severe disease, they are less effective in preventing infections,<sup>6</sup> which when left unmitigated can cause catastrophic harms even if they have a lower fatality rate overall. So, we are left quibbling among ourselves about whether to mask or not, instead of demanding accountability from our governments to clean the air we breathe; ensure basic worker rights, such as paid time off for

those who are sick; and more rigorously protect poorer families from in-home spread, through the provision of tools such as air purifiers/filters, rapid tests, and N95 masks when a family member is sick.

Covid-19 is not over. And, if nothing else, it should serve as a warning for how underprepared we are for future respiratory threats. This knowledge should not see us turning against one another, but looking towards our governments and leaders for the support we deserve.

Competing interests: Abraar Karan had served as a paid research consultant to the Independent Panel on Pandemic Preparedness and Response in 2020.

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