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Unmasking the mask: a time-series analysis of nosocomial COVID-19 rates before and after removal

Embargo 2301H UK time Thursday 6 April

12h. Infection prevention and control (incl. healthcare facilities, community, schools)

Likely attendance

Onsite

Paper Poster plus ePoster voice over

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Background

Mask wearing has been part of a package of infection control measures employed to reduce nosocomial COVID-19 throughout the pandemic. A low-tech, low-cost intervention without well-established benefit was reasonable in the context of the early pandemic. However, with a reduction in the severity of COVID-19 disease, in later variants, the risk-benefit balance becomes more questionable.

Methods

We analysed routinely collected infection control data on nosocomial SARS-CoV-2 infection over a 40-week period from a large south-west London hospital using a controlled interrupted time series design. The intervention was the removal of a staff/visitor surgical mask-wearing policy for the majority of wards at week 26 of this period (study group) with a subset of specific wards retaining the mask policy (control group). The nosocomial SARS-CoV-2 infection rate was normalised by the underlying community infection rate identified by unselected admission screening. The Omicron variant was the dominant strain throughout the period of the study. A quasi-Poisson segmented regression model was used for the count data using community infection rate as an offset variable.

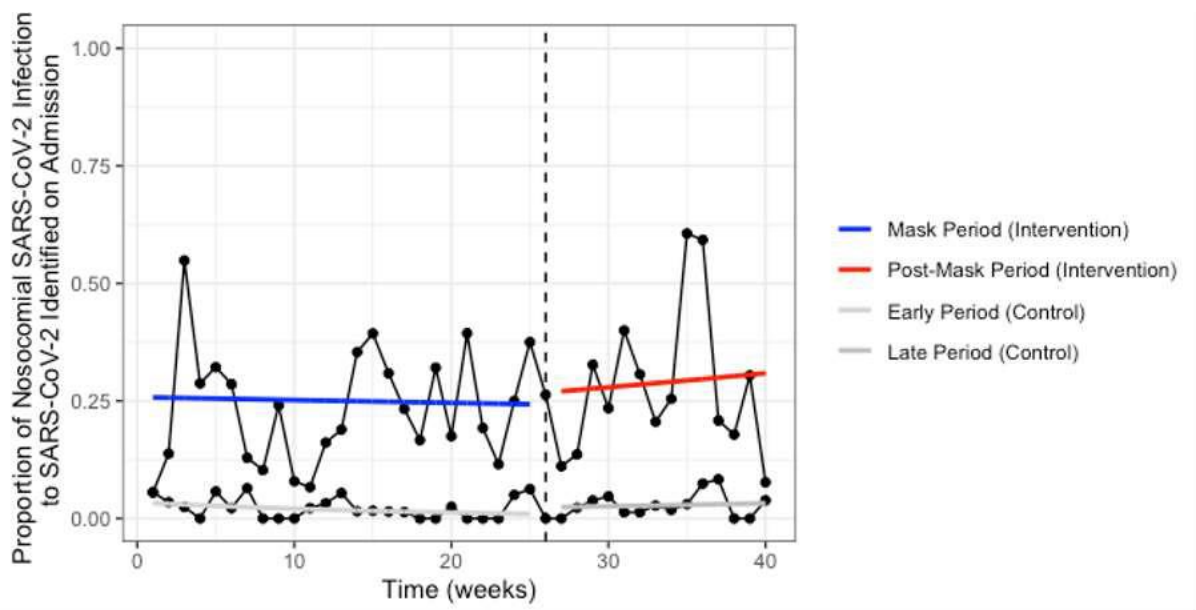
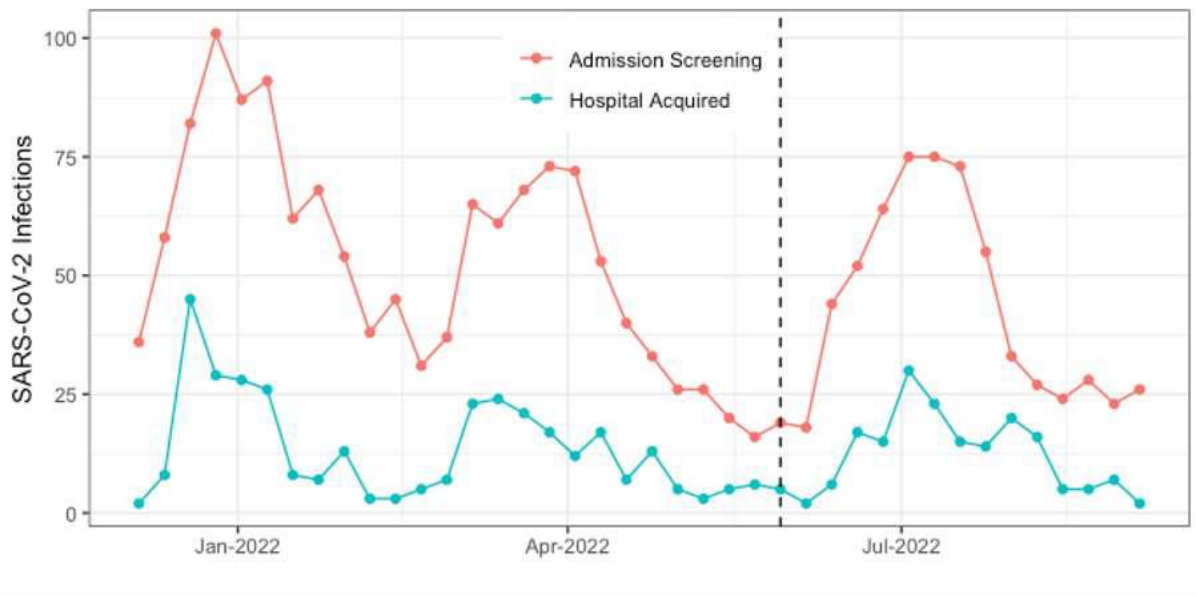
Results

In the context of a surge in SARS-CoV-2 infection (see figure 1), removal of the mask policy was not associated with a statistically significant change in the rate of nosocomial SARSCoV-2 infection in the study group (Incidence Rate Ratio (IRR) 1.11 95% CI: 0.52 to 2.33) and no post-intervention identifiable trend (IRR 1.01 95% CI: 0.93 to 1.10) to suggest a delayed effect. The control group also found no immediate or delayed change in infection rate (IRR 2.56 95% CI 0.55 to 11.81; IRR 1.08 95% CI 0.92 to 1.25 respectively) (See figure 2).

Conclusions

Utilising a robust quasi-experimental approach, we found no evidence that a mask policy significantly impacts the rate of nosocomial SARS-CoV-2 infection with the Omicron variant. While these data do not preclude a small effect, the real-world benefit of this mitigation measure in isolation is likely to be modest within a healthcare setting.

SARS-CoV-2 infection rates



Keyword 1

COVID-19

Keyword 2

Infection control and prevention

Keyword 3

Masking

Conflicts of interest

Do you have any conflicts of interest to declare?

No