

# Review of "Smoking, vaping and hospitalization for COVID-19"

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This paper provides timely information on the association of smoking with SARS-CoV-2. While these data suggest that smoking is not a risk factor for hospitalisation for COVID-19, limitations of this analysis need to be balanced against the *prima facie* case that smoking is likely a risk factor for both transmission (due to regular hand-to-face action when smoking a cigarette) and disease progression (due to the concurrent health effects of smoking, including on the respiratory system). Some of the key reasons that could underpin an artefactual association, as described here, are: 1) reverse causation (i.e. smokers with severe symptoms may stop smoking before admission to hospital and therefore be counted as non-smokers; alternatively, people presenting with COVID-19 may be less likely to admit to being current smokers); 2) self-selection (smokers with COVID-19 may be less likely to present to hospital, either because they have died or they self-treat in the community, e.g. because of lack of access to funds, given that smoking has a strong negative association with socio-economic position) and 3) cohort effects (smoking prevalence declines with age and older people are more likely to be hospitalised if they are infected). In these unprecedented times, it is important to remember that smoking is a major contributor to worldwide morbidity and mortality, which adds additional strain to healthcare systems already under huge pressure from COVID-19. Until such time that there is access to data from an appropriate, representative sampling frame with validated exposure and outcome measures, we would therefore suggest that conclusions about the possible 'protective role' for smoking from SARS-CoV-2 hospitalisation are premature.