WEEK 1 WHAT IS KNOWN ABOUT THE OUTBREAK OF COVID-19?
STEP 1.5 OVERVIEW OF THE CORONAVIRUS AND COVID-19

Frequently asked questions

Question	Answer
Can SARS-CoV-2 be transmitted through the air?	The main modes of transmission are droplet and contact, but as in the lecture this doesn't exclude other methods in some situations. One paper in the New England Journal of Medicine - https://www.nejm.org/doi/full/10.1056/NEJMc2004973 - reports that in artificial aerosols live virus was still detectable in the air after several hours. This sort of aerosol might be produced from some hospital procedures such as open suctioning of respiratory tract. Importantly, though, in a separate study - https://jamanetwork.com/journals/jama/fullarticle/2762692 - treatment rooms used to treat COVID-19 patients were tested to see whether there were particles of the virus in the air. In this study, no virus particles were found.
What effect does environmental temperature have on SARS-CoV-2?	Research into the effect of temperature and humidity on SARS CoV-2 is ongoing. Some preliminary studies suggest that there is a limited role for differences in humidity and temperature to affect spread - https://cmmid.github.io/topics/covid19/current-patterns-transmission/role-of-climate.html The European Centre for Disease Control included a section on seasonality in a recent report - https://www.ecdc.europa.eu/sites/default/files/documents/RRA-seventh-update-Outbreak-of-coronavirus-disease-COVID-19.pdf#page=8 Additionally, here is a blog - https://ccdd.hsph.harvard.edu/will-covid-19-go-away-on-its-own-in-warmer-weather - and a review discussing climate and COVID-19 transmission (not yet peer-reviewed when accessed on 02.05.2020) - https://www.phc.ox.ac.uk/covid-19/evidence-service/reviews/22nd-march-do-weather-conditions-influence-the-transmission-of-the-coronavirus-sars-cov-2

How long can SARS-CoV-2 survive on surfaces?	SARS-CoV-2 is thought to behave like other coronaviruses and studies on these viruses suggest that they may persist on surfaces for a few hours or up to several days. This varies bytype of surface, temperature and environmental humidity. Anexperimental study using a SARS-CoV-2 strain reported viability on plastic for up to 72 hours, for 48 hours on stainless steel and up to 8 hours on copper - https://www.nejm.org/doi/full/10.1056/NEJMc2004973 It's not clear the length of time the virus persists on soft surfaces but there are some suggestions that it could be shorter due to absorption.
Can people be re-infected and what is the probability of re-infection?	Based on what we know from other viral infections, it is very likely that people will have a period of immunity, but we don't yet know how long this will be. A recent paper (not yet peer-reviewed when accessed on 02.05.2020) - https://www.biorxiv.org/content/10.1101/2020.03.13.990226v1 - indicates that it was not possible to re-infect Old World monkeys with COVID-19. In order to know if people can get re-infected, we need to understand the immunity developed in the course of infection with SARS-CoV-2. Doing this will require a validated serological test for antibodies to SARS-CoV-2, and an assessment of how long these antibodies persist at a level sufficient to prevent re-infection. This is a priority for research. If immunity from re-infection is long-lasting, then herd immunity could occur but more immunological research is needed before we can definitively answer this question. A recent comment in The Lancet summarises the findings from related studies on this topic - https://doi.org/10.1016/S0140-6736(20)30985-5
What is the role of children in the transmission of SARS-Cov-2?	Children do get infected with the virus but seem to be at low risk for serious disease, with mild symptoms. The role of children in the spread of infection, however, is not yet clear. There is discussion of this here - https://doi.org/10.1016/S1473-3099(20)30236-X
What are the gastrointestinal signs/symptoms?	There is some evidence of gastrointestinal symptoms - vomiting, nausea and diarrhoea - and the presence of the virus in stool. Some of the recent data on gastrointestinal symptoms of COVID-19 is summarised in this article - https://www.nature.com/articles/s41575-020-0295-7
Is there a difference in the amount of virus present in symptomatic versus asymptomatic infections?	Studies have been investigating viral load comparisons between symptomatic and asymptomatic cases. A report from China CDC - https://www.nejm.org/doi/full/10.1056/NEJMc2001737 - reported that the viral load detected in an asymptomatic patient was similar to that detected in symptomatic patients.