



The Friday Report – Issue 11

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COVID-19 Actuaries Response Group – Learn. Share. Educate. Influence.

Every week, more is written on COVID-19 than any individual could possibly read. Collectively, the COVID-19 Actuaries Response Group read more about the outbreak than most, so we've decided each Friday to provide you with a curated list of the key papers and articles that we've looked at recently.

Modelling – reports

ECDC: Coronavirus disease 2019 (COVID-19) in the EU/EEA and the UK – tenth update ([link](#))

ECDC's latest report was published on 9 June 2020 (following the ninth update on 23 April). It sets out various aspects of the outbreak in the EU/EEA and the UK. It notes that only 8 of 20 reporting countries were reporting community transmission, but that there is a moderate risk of COVID-19 incidence increasing as physical distancing measures are lifted. ECDC suggest that governments should remind citizens that the pandemic is far from over.

Modelling – other

The idea that a significant proportion of those dying with COVID-19 in the UK would have died relatively soon anyway has been making headlines again ([link](#)). Whilst there will inevitably be some overlap between those dying with COVID-19 and those who would have died from other causes in the near future, we strongly believe that the narrative that this proportion would be significant is incorrect, as expressed in this [article](#).

Clinical and Medical News

The role of ACE2 explored

ACE2 is a membrane protein required for SARS-CoV2 to bind and enter cells and is abundant in the human body in particular locations such as the heart, the kidneys and in the lungs. Those with comorbidities such as diabetes and existing lung disease such as COPD have been observed to experience more severe COVID-19 symptoms and increased risk of death.

Analysis here ([link](#)) suggests that ACE2 may be expressed at higher levels in the lungs of people with these comorbidities, thus rendering them more vulnerable to COVID-19.

'Silent pneumonia'

Clinicians have reported atypical presentation of pneumonia in some COVID-19 patients, in which the respiratory symptoms do not match the level of respiratory compromise. Findings from research into a similar phenomenon observed in patients infected with the H5N1 virus suggested that this may be attributed to a possible impairment of the respiratory-related neural loops.

Analysis of critically ill COVID-19 patients report that part of the human body's oxygen monitoring system may be damaged by SARS-CoV-2 leading to a lack of perception of hypoxemia (low O2 levels) by some patients ([link](#)).

In addition, the virus may be able to damage respiratory-related central neurons. Essentially, what this means is that the receptors in the body that tell you there is insufficient oxygen, and the brain cells that receive that information and prompt you to respond, may be damaged in some COVID-19 patients.

Heart disease and COVID-19

The impact of underlying cardiovascular comorbidities and acute cardiac injury on in-hospital mortality risk is explored in this systematic review and meta-analysis ([link](#)).

It has been consistently observed that COVID-19 patients are at increased risk of severe symptoms and death. Some of the pathophysiology that is involved has been examined, as in the first study at the top of the page on ACE2. In addition, this meta-analysis suggests that the presence of higher rates of acute cardiac injury in COVID-19 patients also contributes to a poorer outcome, which may happen as a direct result of damage to the heart from the virus itself as opposed to just exacerbation of the pre-existing cardiovascular conditions. Acute cardiac injury may act as a marker of in-hospital mortality risk.

More evidence on facemasks

Following on from the bulletin of last week ([link](#)) in which we presented a strong argument in favour of facemask wearing by the general public, this week has seen further evidence to support this argument.

In this first study, ([link](#)) the researchers examined the dominant route for the spread of COVID-19 and conclude that it is primarily airborne and as such, that wearing of face masks in public corresponds to the most effective means to prevent interhuman transmission.

In this second analysis, ([link](#)) the effect of face masks on the spread of Covid-19 in Germany was reviewed, and with some caveats for the population identified, the study concludes that wearing facemasks can have a significant impact on reducing the daily growth rate of infections.

Data

ONS – Deaths involving COVID-19 by local area and socioeconomic deprivation: deaths occurring between 1 March and 31 May 2020 ([link](#))

ONS have updated their analysis of death registrations by local area and socioeconomic deprivation to cover the period up to 31 May 2020 (the previous analysis was to 17 April). The conclusions are similar to those set out in ONS's preliminary report with the hardest hit areas being London, areas with higher population density, and areas with higher deprivation.

ONS – Coronavirus (COVID-19) Infection Survey pilot: England, 12 June 2020 ([link](#))

This sets out initial data from the COVID-19 Infection Survey, which is a collaboration between ONS, University of Oxford, University of Manchester, Public Health England and Wellcome Trust.

It reports on COVID-19 infections within the community population (that is, excluding hospitals, care homes and other institutional settings). They estimate that, at any given time between 25 May and 7 June 2020, an average of 0.06% of the community population had COVID-19, or around 33,000 individuals. They also note a downward trend in infection.

And finally.....

New business opportunities

A US plumber who unfortunately lost his job during lockdown has started a new and now seemingly successful business building picnic tables for squirrels ([tablesforsquirrels](#)); we wonder if he's ready to take on a full building project such as that by Dave Hunchak from Canada? ([barforsquirrels](#))

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