Further evidence of erroneous WHO Feb 25th lethality assessment of SARS-CoV-2

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Outbreak continues in NYC

In my earlier paper (1), I described the abundance of evidence that asymptomatic SARS-CoV-2 infections are very common in different populations. However, my suggestion that herd immunity had already built up in New York City was premature. The data is lagging and the epidemic has so far only plateaued. However, it is still probable that herd immunity is close at hand in cities like New York, where infection rates are high. Serological surveys will reveal what level of herd immunity was reached in the city, but not until after the epidemic has taken its course.

Since I wrote my paper, further evidence has been published in support of my view.

Linköping Hospital staff survey

A PCR swab survey was done in early April in Linköping University Hospital in Sweden after COVID19 patients had been admitted to the hospital. The survey was a precautionary measure, aimed at ensuring there would be enough staff if the epidemic worsened.

All 50 members of staff of the surgical ward were tested. It appeared that 50% were SARS-CoV-2 PCR positive. Almost all had no symptoms. State epidemiologist Anders Tegnell said that the number of those with immunity would be higher.

Boston homeless shelter survey

A small cluster of COVID-19 cases in a Boston shelter for the homeless led to broad-scale testing of the residents in early April. Of the 397 people tested, 146 (37%) tested positive. Not a single one had any symptoms.

Santa Clara serosurvey

Stanford University and Santa Clara County officials organised a large serosurvey in early April, aiming to determine the true rate of infection in the population. The study group was a representative sample of the county by demographic and geographic characteristics. The have now reported the prevalence of antibodies to SARSCoV-2 in their sample of 3,330 people (although note that their report is not yet peer reviewed).

They have summarised their findings as following:

> The most important implication of these findings is that the number of infections is much greater than the reported number of cases. Our data imply that, by April 1 (three days prior to the end of our survey) between 48,000 and 81,000 people had been infected in Santa Clara County. The reported number of confirmed positive cases in the county on April 1 was 956, 50-85-fold lower than the number of infections predicted by this study. The infection to case ratio, also referred to as an under-ascertainment rate, of at least 50, is meaningfully higher than current estimates. This ascertainment rate is a fundamental parameter of many projection and epidemiologic models, and is used as a calibration target for understanding epidemic stage and calculating fatality rates. The under-ascertainment for COVID19 is likely a function of reliance on PCR for case identification which misses convalescent cases, early spread in the absence of systematic testing, and asymptomatic or lightly symptomatic infections that go undetected.

We can see what this result implies about the situation in New York City. If we multiply the current number of confirmed COVID-19 cases there by 50, it implies that over six million people – nearly three-quarters of the population – have already been infected. This is sufficient to provide herd immunity.

The Stanford team also say:

> A hundred deaths out of 48,000-81,000 infections corresponds to an infection fatality rate of 0.12-0.2%. If antibodies take longer than 3 days to appear, if the average duration from case identification to death is less than 3 weeks, or if the epidemic wave has peaked and growth in deaths is less than 6% daily, then the infection fatality rate would be lower.

Their infection fatality estimate is close to the one I gave in my earlier paper, based on serosurveys from Denmark and Finland.

Chinese claim herd immunity not close

One potential contrary piece of evidence comes from Wuhan. The Chinese are now claiming that almost no one in Wuhan – including healthcare personnel and security officials – has antibodies against the SARS-CoV-2 virus, apart from those who have had COVID-19 (6). The Chinese claim is hard to believe, unless immunity against SARS-CoV-2 wanes rapidly.

The WHO's risk assessment was wrong

World Health Organization Assistant Director General Bruce Aylward said after visiting Wuhan in February that he did not see "evidence that a large number of mild cases of the novel disease called Covid-19 are evading detection". He also claimed that SARS-CoV-2 would be approximately as lethal as Spanish flu.

The evidence we have now suggests that he was incorrect, and that the lethality of the virus is in fact (in the words of a former editor of the British Medical Journal, "in the ballpark of seasonal influenza" (7).

References

1. https://www1.nyc.gov/site/doh/covid/covid-19-data.page

2. https://www.wsj.com/articles/wuhan-starts-testing-to-determine-level-of-immunity-from-coronavirus-11587039175?fbclid=IwAR1y9WKgjlbk1f1CHlIGvxbCivfE5caoLT0unkK_hts1Cx-JS6h00_wPh4Q

3. https://www.aftonbladet.se/nyheter/a/70Oxe3/avdelning-pa-sjukhus-testade-alla--halften-var-smittade

4. https://www.wsoctv.com/news/trending/coronavirus-cdc-reviewing-stunning-universal-testing-results-boston-homeless-shelter/ZADQ45HCAZEVJAZA3OTCUR7M6M/?fbclid=IwAR2QDpkBFAcAr9It8sFHKLIrd7X_0-eRPG_LhD22OzjmBxMuHrLUg1x2_x0

5. https://www.medrxiv.org/content/10.1101/2020.04.14.20062463v1.full.pdf

6. https://www.wsj.com/articles/wuhan-starts-testing-to-determine-level-of-immunity-from-coronavirus-11587039175?fbclid=IwAR1y9WKgjlbk1f1CHlIGvxbCivfE5caoLT0unkK_hts1Cx-JS6h00_wPh4Q

7. https://twitter.com/Richard56/status/1251449139470221312