DEFINING COVID-19 ELIMINATION

Elimination of covid-19: beware of surveillance bias

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Surveillance bias occurs when looking at health conditions that have differential intensity across populations, over time, or according to care setting or type of patient.1 As a result, any difference in frequency of the condition might not reflect a change in the actual risk of this condition but rather differences in the modality of detection or patient characteristics.2

Is this happening with covid-19? On the brink of a new wave of the pandemic, clarity on this point is needed to enlighten public health surveillance activity.

On 16 December 2020, in the early stage of the previous wave in the United Kingdom, the rolling seven day average of new confirmed covid-19 cases was 310 per million people, with a rolling seven day average of 5.1 tests per 1000 people.3 The number of people in hospital owing to covid-19 was 18 671. Seven months later, on 1 July 2021 at the start of the current wave, the rolling seven day average of new confirmed covid-19 cases was 304 per million people, roughly the same as on 16 December. The number of people tested, however, was about three times higher (rolling seven day average 16 per 1000 people) and the number of people in hospital owing to covid-19 was 10 times lower (1907). Despite similar incidence rates at the start of each wave, the epidemiology of covid-19 is strikingly different. Besides the potential effects of virus mutations, this is caused by differences in testing strategy, currently much broader and including asymptomatic people, and the spread of vaccination, with a large share of vulnerable people now protected against severe complications from the disease and admission to hospital.4 5

Surveillance bias means that the number of new confirmed covid-19 cases cannot be used alone as an indicator of the extent of the pandemic. Public health decision makers must consider other indicators and changes in detection strategy together with the number of new cases to assess the progress and severity of the pandemic and take sound mitigation policy decisions towards, hopefully, eliminating covid-19.5

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