



Impact of general social distancing measures on incidence of influenza in Australia

To the Editor:

We read with interest the work by McQUAID *et al.* [1] exploring the potential impact of social distancing on global transmission of tuberculosis. Influenza is responsible for a large number of deaths, with the World Health Organization estimating up to 650 000 deaths per year globally [2]. We have explored the impact of social distancing on incidence of influenza in Australia.

The Centers for Disease Control and Prevention (Atlanta, GA, USA) recently published a systematic review examining the efficacy of six individual social distancing measures in limiting the spread of community influenza transmission, including isolation of ill persons, contact tracing, quarantine of exposed persons, school and work closures, and avoiding crowding [3]. Following the emergence of the SARS-CoV-2 pandemic, in addition to closure of international borders, Australia (population 25 million) enacted all six social distancing measures simultaneously and has, to date, been highly successful in “flattening the curve” of COVID-19 [4], with (as of 11 June 2020) 7285 confirmed cases and just 102 deaths [5].

We report a major impact of these same measures on the incidence of influenza within Australia. Laboratory-confirmed influenza is a notifiable disease in Australia, with collation of surveillance conducted by Australian jurisdictions reported nationally in the National Notifiable Diseases Surveillance System. The notification rate for laboratory-confirmed cases of influenza in the first 3 months of 2020 was consistent with data from the previous 5 years (figure 1) [6]. In response to the COVID-19 pandemic, on 23 March 2020, Australia enacted a series of measures including significant social distancing measures to limit spread. Data for April and May indicate a striking fall in influenza incidence. Reported cases for May 2020 numbered 228, which is <1% of those observed in May 2019 (30 568 cases, 122.3 per 10⁶) and only 3% of the average of the previous 5 years (8034, 32.1 per 10⁶) [6]. While these comparisons are, to some degree, affected by the high notification rate reported in 2019, it remains striking that in the month of July, the notification rate for laboratory-confirmed influenza is <1% of the 5-year average, and even if 2019 data are excluded, remains only 1.3% of the average rate for the years 2015–2018.

This does not appear to be primarily related to a reduction in testing, with numbers of generic molecular detection studies (~80% of which are for influenza testing) [7] performed under Australia’s universal national insurance scheme during April 2020 (154 000) falling only minimally in comparison to 2019 (181 000, 15% reduction) and remaining 16% higher than the previous 5-year average for May (133 400) [8].

Previous interventions for reduction in influenza cases predominantly focused on isolation of suspected/confirmed cases, and limited antiviral treatment for cases and rare antiviral prophylaxis for contacts, which has a moderate impact on influenza transmission. Interventions for confirmed COVID-19 cases, including isolation, quarantine, and contact tracing, will not affect influenza transmission and, therefore, the striking fall in influenza incidence appears to be the result of widespread, whole-of-population social distancing measures, including school and work closures, and avoidance of all nonessential social mixing outside the home.



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General social distancing measures enacted for control of the #SARSCoV2 pandemic have achieved a profound reduction in incidence of #influenza in Australia <https://bit.ly/3hXjOkI>

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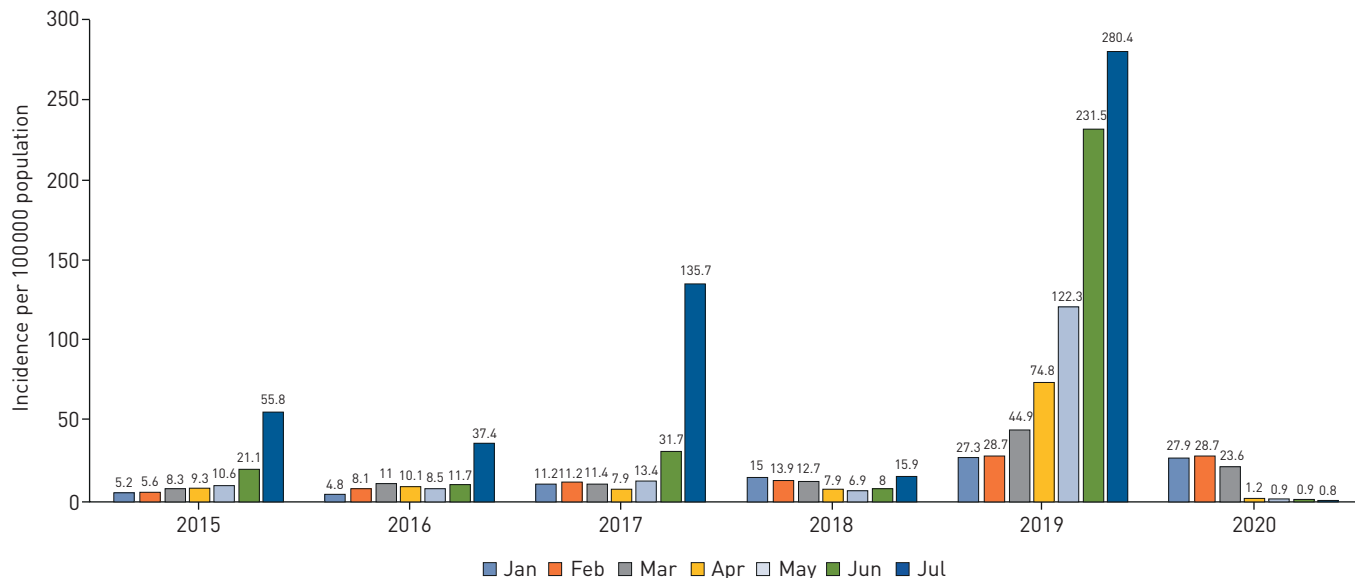


FIGURE 1 Notifications of laboratory-confirmed influenza in Australia for January–July by year 2015–2020. Notifications are reported by the date the positive specimen was collected.

While social distancing measures have played a key role in mitigating previous pandemics, these observations emphasise the profound impact of a combination of general social distancing measures on influenza and demonstrate the value of these measures in future pandemic planning.

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