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## **Influenza vaccination uptake in Australia in 2020: impact of the COVID-19 pandemic?**

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# Influenza vaccination uptake in Australia in 2020: impact of the COVID-19 pandemic?

Frank Beard, Alexandra Hendry, Kristine Macartney

Annual influenza vaccination is strongly recommended and funded on the National Immunisation Program (NIP) for all children aged 6 months to < 5 years, all adults aged  $\geq 65$  years, all Aboriginal and Torres Strait Islander people aged  $\geq 6$  months, pregnant women and anyone aged  $\geq 6$  months with specified medical conditions.<sup>1</sup> We previously reported an eight-fold increase in influenza vaccine uptake in children aged 6 months to < 5 years, from 5.0% in 2017 to 39.7% in 2019,<sup>2</sup> following introduction of funded programs. In the context of the COVID-19 pandemic, we aimed to review influenza vaccine uptake in young children in 2020, the first year of NIP-funding in this age group, along with other groups – older adults ( $\geq 65$  years of age) and Aboriginal and Torres Strait Islander people of all ages – for whom reporting to the Australian Immunisation Register (AIR) is likely most complete.

We analysed de-identified AIR data as at 30 September 2020. Influenza vaccine uptake estimates were calculated weekly for the 1 March to 31 August 2020 period, and for the same period in 2019, by age and Indigenous status, using the number of individuals with  $\geq 1$  dose of influenza vaccine as the numerator, and the number of individuals in each group registered in AIR by month's start as the denominator.<sup>i</sup> All people registered with Medicare are automatically added to AIR; as participation in AIR is 'opt-out'

it constitutes a nearly-complete population register for Australian residents, with individuals not enrolled in Medicare also able to be added.<sup>3</sup>

Between March and August 2020, 43.9% of children aged 6 months to < 5 years had  $\geq 1$  dose of influenza vaccine recorded, 4.2 percentage points higher than in 2019 (Figure 1). Vaccine uptake was recorded as 64.0% for adults aged  $\geq 65$  years, 6.0 percentage points higher than in 2019. While true coverage in older adults is likely 10 to 20 percentage points higher, based on knowledge of vaccine doses distributed and previous national data,<sup>4-6</sup> completeness of reporting to AIR has steadily improved with coverage increasing from 31.5% in 2017 and 46.3% in 2018.<sup>5</sup>

Recorded influenza vaccine uptake in Aboriginal and Torres Strait Islander children aged 6 months to < 5 years was slightly higher in 2020 (40.1%) than in 2019 (39.9%) (Figure 2), but lower than in non-Indigenous children (44.1%). In contrast, uptake in Aboriginal and Torres Strait Islander adults aged  $\geq 65$  years was higher in 2020 than 2019 (76.2% versus 75.1%) (Figure 2) and substantially higher than in non-Indigenous adults (63.8%). Recorded uptake for Aboriginal and Torres Strait Islander people in the 5–14, 15–49 and 50–64 year age groups was higher in 2020 at 32.5%, 32.1% and 56.4%, respectively, compared to 2019 (30.0%, 28.9% and 52.0%). While uptake in younger Aboriginal and Torres Strait Islander adults was lower than in those aged  $\geq 65$  years, it was similar to the most recent (2012/2013) National Aboriginal and Torres Strait Islander Health Survey.<sup>7</sup>

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<sup>i</sup> This study was exempted from ethics approval by The Sydney Children's Hospital Network Human Research Ethics Committee on the basis that it involved analysis of de-identified, population-based, administrative data for surveillance activities, under the approval of the Australian Government Department of Health.

Figure 1: Cumulative influenza vaccine uptake ( $\geq 1$  dose) in young children and older adults, Australia, 1 March to 31 August, 2019 and 2020

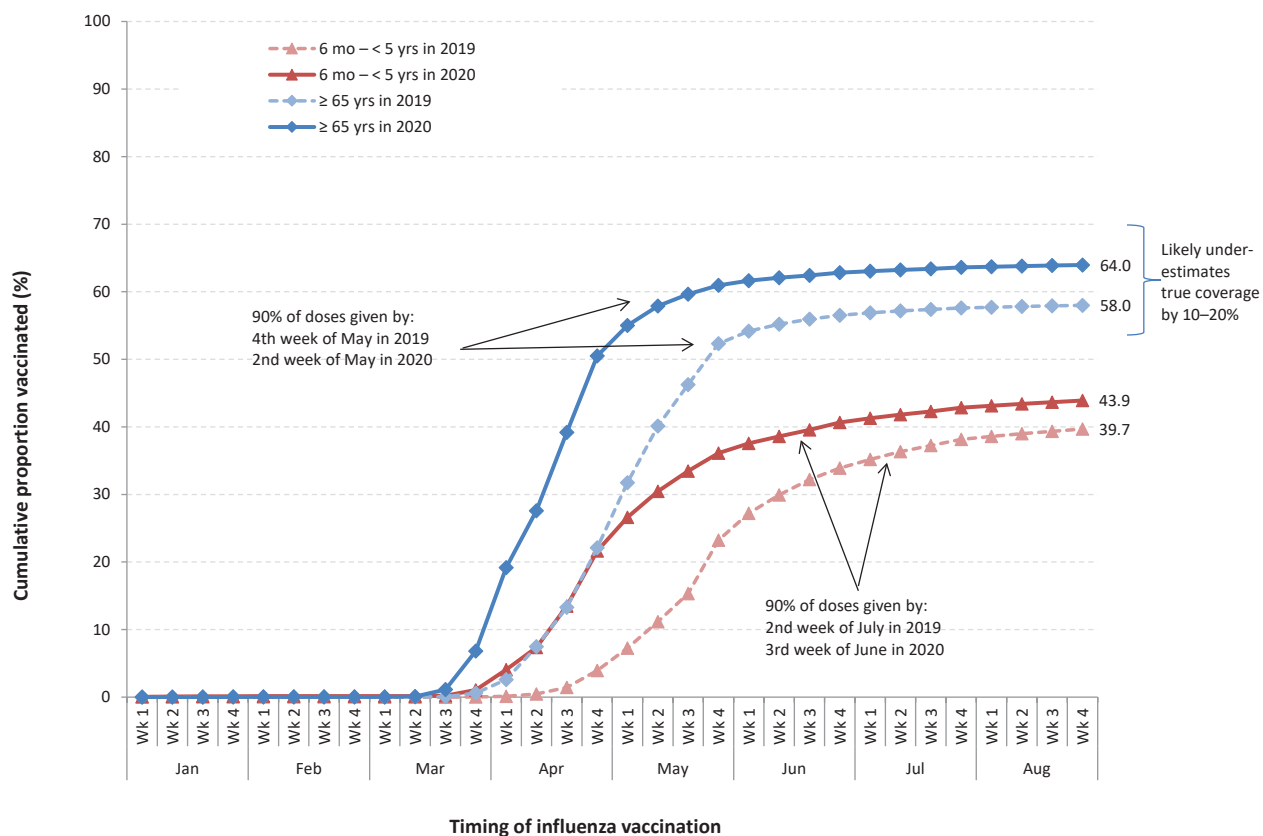
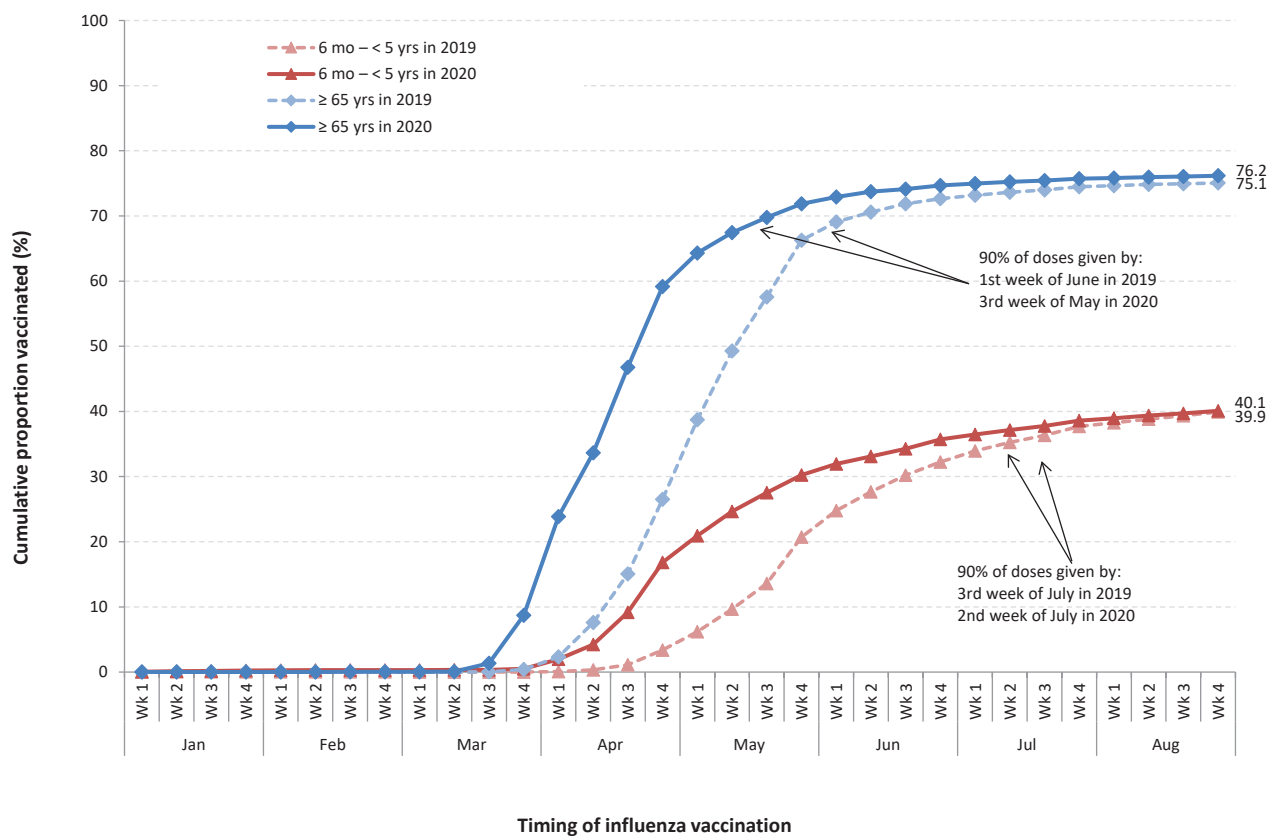


Figure 2: Cumulative influenza vaccine uptake ( $\geq 1$  dose) in Indigenous young children and older adults, Australia, 1 March to 31 August, 2019 and 2020



Different vaccination patterns were also observed in 2020. Vaccination commenced and peaked several weeks earlier than in 2019, due to the early program rollout stimulated by the COVID-19 pandemic, and was several weeks earlier in adults aged  $\geq 65$  years than in young children in both years, consistent with prioritisation strategies.

In conclusion, 2020 saw increases in recorded influenza vaccine uptake. This could be due both to increased completeness of reporting, and to true increases in coverage due to early rollout and public messaging. However, AIR data still vastly underestimates true influenza vaccine uptake. In 2020, there were 18 million doses of influenza vaccine distributed to providers under the NIP,<sup>8</sup> but only half (9 million) were recorded as administered in AIR as of the end of September. While data completeness has improved substantially, it is still suboptimal given that this whole-of-life register has been in place for more than four years. Under-reporting of influenza vaccination to AIR is likely greatest in non-Indigenous adults aged  $< 65$  years, in whom many non-NIP-funded influenza vaccinations are administered in workplaces, pharmacies and other non-GP settings.<sup>5</sup> We need to redouble our efforts to improve reporting of influenza vaccinations, and indeed vaccinations of any type in individuals of any age, to AIR. Complete reporting of vaccination will be critically important to monitoring the uptake, effectiveness and safety of COVID-19 vaccines. The mandatory reporting requirements that are being introduced, for both COVID-19 and other NIP vaccines,<sup>9</sup> are a welcome step towards optimising completeness and utility of the AIR.

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