

Seasonal influenza vaccination in Aboriginal children in Western Australia in 2015

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A boriginal children and Torres Strait Islander children are more likely than non-Indigenous children to be hospitalised with influenza-associated complications, and are five times more likely than non-Indigenous children to die from influenza.^{1,2} In 2015, Aboriginal and Torres Strait Islander children between the ages of six months and up to five years were eligible for free influenza vaccination, for the first time under the National Immunisation Program Schedule.¹

Methods

In November 2015, the Western Australia Department of Health attempted to interview Aboriginal mothers about maternal and childhood influenza vaccination through a routinely conducted vaccination survey.³ Ethics approval was obtained from the Western Australia Department of Health's Human Research Ethics Committee and Western Australia Aboriginal Health Ethics Committee (reference number WAAHEC 657).

A random sample of 400 Aboriginal mothers was selected from the state's perinatal database. One hundred and seventy-three (43.3%) mothers were successfully contacted by an Aboriginal researcher using contact details recorded in the database and 100 (57.8%) agreed to participate. Sixty-six (66.0%) participating mothers reported on the vaccination status of 101 children under five years of age within their household (median = 1 child; interquartile range [IQR] = 1–4 children). Analyses were clustered by household and weighted by region of residence.

Results

Half (48.2%; 95% confidence interval [CI]: 32.5–63.9%) of the mothers reported that a healthcare provider recommended seasonal influenza vaccination for their children. Overall, 39.8% (95% CI = 26.1–53.5%) were vaccinated in 2015 (Table 1). The majority (64.5%; 95% CI = 44.4–84.6%) of mothers with unvaccinated children said they would have had their child

immunised if a healthcare provider had recommended it. This suggests that a 79% coverage is achievable if all providers recommend influenza vaccination; however, other factors are known to influence vaccine uptake in Aboriginal children.⁴

Discussion

Data collection by telephone interview may have limited representativeness, and survey weighting was required. Verification of maternally reported vaccination status of the children was attempted where possible. Of the 41 children reported by their mothers as vaccinated, permission was obtained to verify the influenza immunisation record of 32 (78.0%) children on the Australian Childhood Immunisation Register (ACIR). Of these, 19 (59.4%) children's records were able to be located on the ACIR based on the details provided, four (21.1%) of which included a record of influenza vaccination. Given the difficulties in locating ACIR records on the basis of the name and date of birth provided, few maternally reported influenza vaccinations could be verified. These findings suggest that maternal report may have overestimated the true vaccination coverage. Previous research has shown that parental reporting of influenza vaccination captures 88% of influenza vaccinations when compared with medical chart information.⁵ Regardless, our results indicate influenza vaccination coverage is suboptimal in Aboriginal children, leaving them vulnerable to severe influenza disease.

It is concerning that, despite the potential benefits and availability of free influenza vaccination, only half of the Aboriginal mothers in our survey indicated a healthcare provider recommended influenza vaccination for their young children. Given the significant portion of mothers who reported that they would have had their child vaccinated if it had been recommended, a targeted national immunisation program⁴ with consistent healthcare provider recommendations could improve influenza vaccination coverage among Aboriginal children.

Table 1. Weighted per cent of Aboriginal children <5 years (n = 101) who received seasonal influenza vaccine based on maternal self-report – Western Australia, 2015

	Seasonal influenza vaccine was recommended for child		Child received seasonal influenza vaccine	
	n	Weighted % (95% CI)*	n	Weighted % (95% CI)
Overall	44	48.2 (32.5–63.9)	41	39.8 (26.1–53.5)
Maternal age				
18–24 years of age	13	47.1 (19.7–74.4)	19	42.3 (20.5–64.2)
≥25 years of age	31	48.7 (28.7–68.8)	22	38.1 (19.2–56.9)
Maternal education				
High school or less	30	48.1 (29.5–66.7)	35	44.2 (28.1–60.2)
University or more	14	48.4 (15.8–80.9)	6	26.0 (0.0–57.6)
Residence				
Metropolitan	24	47.2 (25.9–68.5)	14	26.5 (12.0–41.0)
Non-metropolitan	20	48.8 (26.0–71.6)	27	47.6 (27.2–67.9)
Mother immunised against influenza during pregnancy†				
Yes	22	52.3 (29.2–75.5)	28	48.6 (28.2–68.9)
No	20	46.2 (21.0–71.3)	11	27.9 (5.4–50.5)

*Estimates were clustered by mother and weighted by public health unit of residence to be representative of the population of Aboriginal women who gave birth to a live infant between April and October 2015.

†Mother self-reported receiving an influenza vaccine during her most recent pregnancy; vaccination status could not be determined for two mothers.

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