



Government of **Western Australia**
Department of **Health**

Data Linkage Update: Coverage, Effectiveness and Safety

15 November 2023

Public Health Update – Immunisation Day

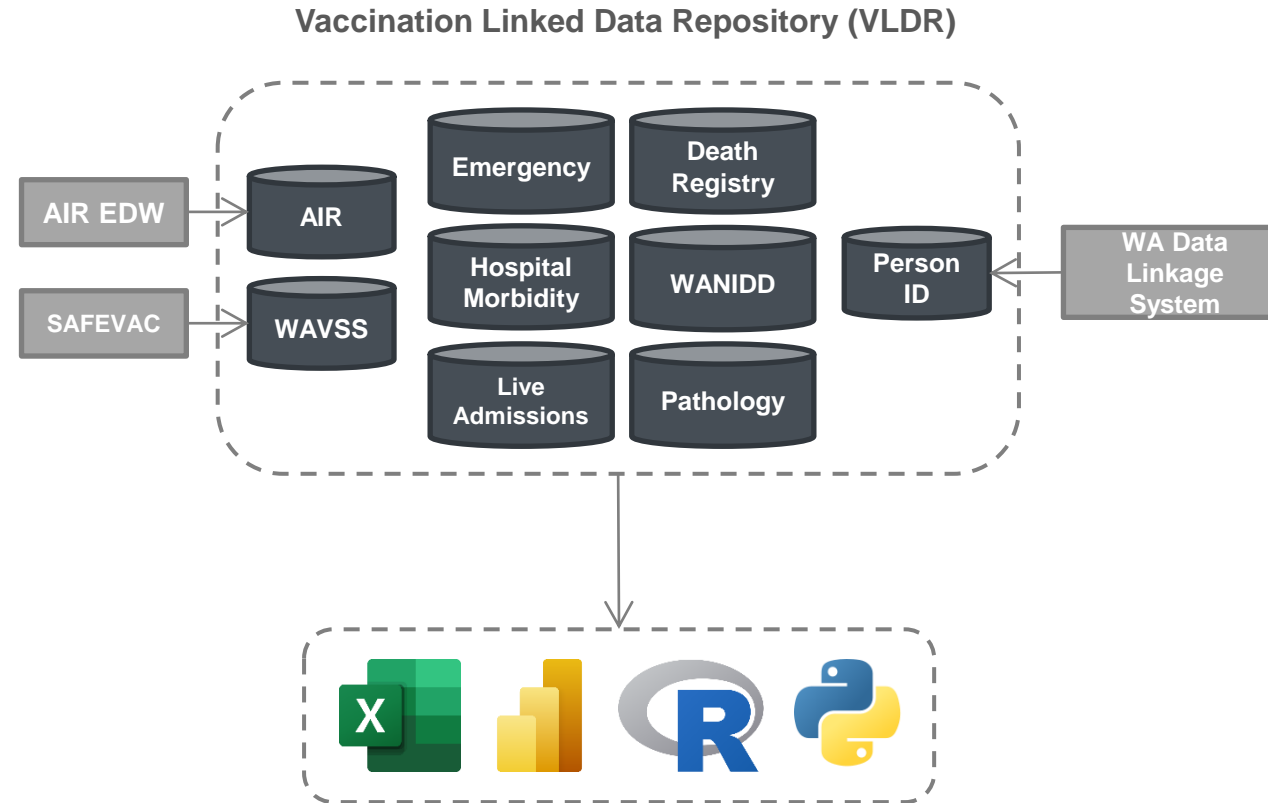
Dr Lauren Bloomfield

health.wa.gov.au

Acknowledgement of country

- May I first acknowledge the Whadjuk people of the Noongar nation, the traditional custodians of this land who are resilient in their custodianship
- Let us celebrate their culture today and every day, and note how privileged we are to share this country
- I pay my respects to elders: past, present and emerging

WA Vaccination Linked Data Repository (VLDR)



Linkage conducted by WADLB – probabilistic methods

Vaccine safety

- Active safety surveillance systems for Shingrix launched on 1 Nov 2023
 - Case-findings (GBS and ED presentations/hospitalisations potentially related to vaccine – can be amended as we roll out to focus on other AESI)
 - Rapid cycle analysis – statistical methods to detect a signal; all-cause ED presentations 0-1 days and 0-21 days post vaccination. Non-specific, designed as an early warning system to prompt in-depth case investigation

Vaccine effectiveness

- Reporting of all positive **and negative** tests by PathWest commenced April 2023
- End of season estimates produced and shared with WHO Collaborating Centre to inform 2024 flu vaccine formulation
- Restricted to tests in ED (2994 cases, 2994 non-cases)
- All tests in cases over the age of 6 months
- Mid-season estimates were produced in June
- Early (mid-season) estimates have the potential to be used to inform promotion campaigns i.e. early estimates showed high VE in children <5

Final estimates: Influenza VE

Final estimates (N=5988)	VE	LCL	UCL	Interim estimates (N=2768)	VE	LCL	UCL
All flu, all ages	70.0	63.6	75.2	All flu, all ages	72.2	58.1	81.6
All flu, Children <18 years	85.5	77.4	90.7	All flu, Children <18 years	86.1	64.6	94.5
All flu, Adults 18 - 64 years	67.3	55.3	76.1	All flu, Adults 18 - 64 years	78.9	54.9	90.2
All flu, Older adults 65+	52.5	30.1	67.7	All flu, Older adults 65+	54.5	4.0	78.5
Flu A, all ages	65.6	58.1	71.8	Flu A, all ages	65.8	48.3	77.4
Flu B, all ages	90.4	78.5	95.7	Flu B, all ages	97.6	82.7	99.7

Vaccine coverage – antenatal vaccines

- Antenatal vaccinations protect against hospitalisation and death during pregnancy, and adverse birth outcomes (still birth, pre-term birth and SGA)
- Vaccinations given during pregnancy can protect infants from severe disease in the first six months of life, when they are too young to be vaccinated
- Antenatal vaccinations are not specifically marked as such on AIR, and coverage estimates may be unreliable

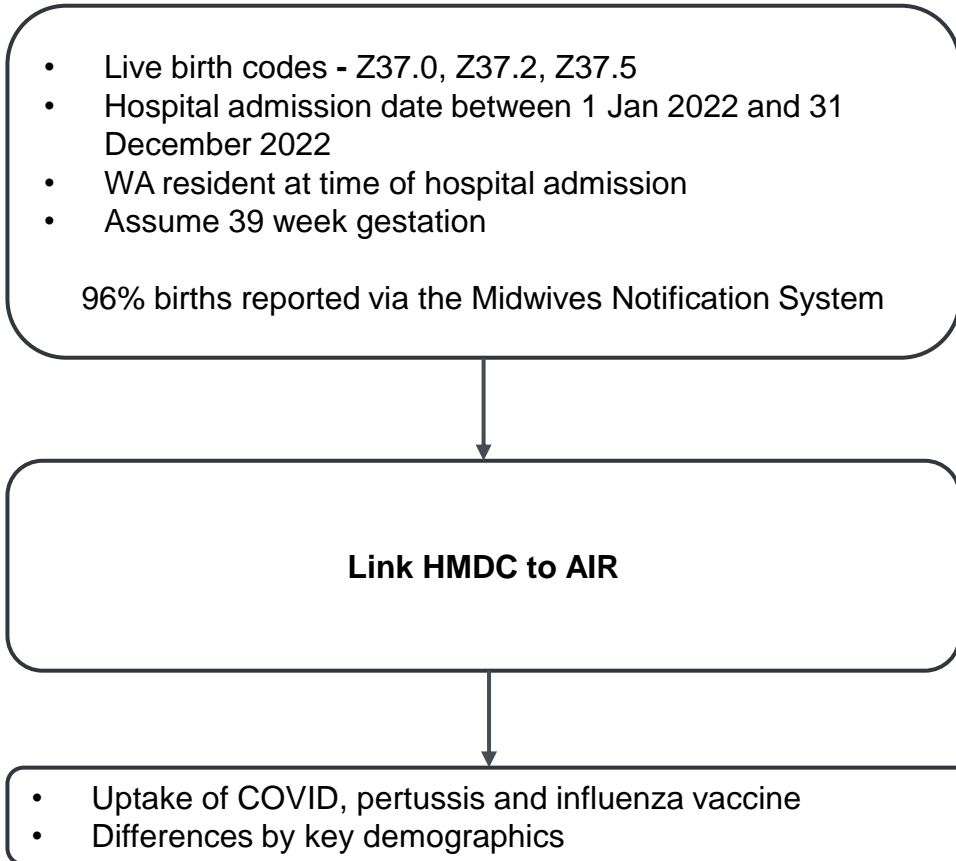
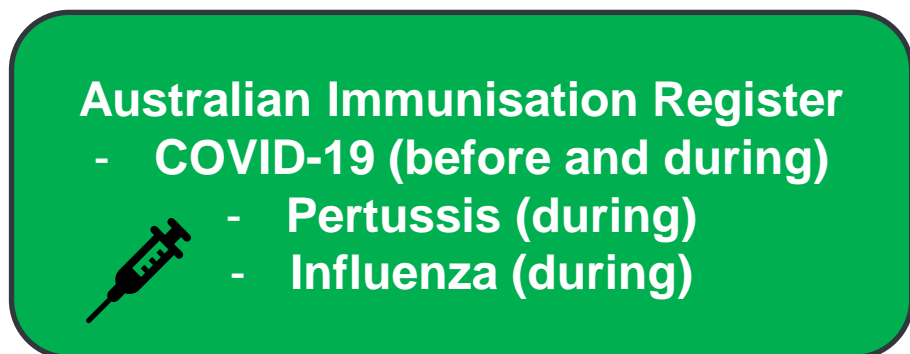
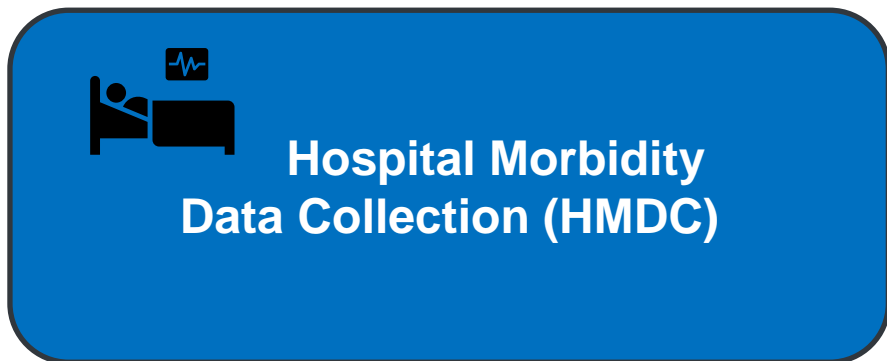
Vaccine coverage – antenatal vaccines

- Antenatal vaccination coverage currently reported based on NOCA
- Without linkage/validation, incomplete estimates of antenatal vaccine coverage (e.g. Pertussis below) and unable to split by geographical areas, Aboriginal status, or age groups

Year	Vaccinated during 1st trimester	Vaccinated during 2nd trimester	Vaccinated during 3rd trimester	Vaccinated in unknown trimester	Not vaccinated	Unknown if vaccinated
2016	0.8%	6.3%	36.2%	5.9%	17.2%	33.6%
2017	0.7%	6.9%	42.3%	5.0%	15.2%	29.8%
2018	0.8%	8.7%	54.8%	4.3%	13.6%	17.8%
2019	0.9%	18.2%	51.2%	4.9%	10.2%	14.6%
2020	1.7%	34.7%	34.9%	5.6%	9.5%	13.6%
2021	1.5%	33.8%	32.2%	5.9%	10.4%	16.2%
2022	1.1%	29.7%	31.0%	6.8%	11.4%	19.9%

From: https://ww2.health.wa.gov.au/Reports-and-publications/Western-Australias-Mothers-and-Babies-summary-information/data?report=mns_pertv_y

Vaccine coverage – antenatal vaccines



Vaccine coverage – antenatal vaccines

- Key findings:
 - By December 2022, **65%** of people had received at least three doses of a COVID-19 vaccine either *before or during* pregnancy at the time of delivery.
 - 22,497 pertussis vaccines were administered to pregnant people giving birth in 2022. The average pertussis vaccine coverage for 2022 was **73.1%**.
 - 15,618 influenza vaccines were administered to pregnant people giving birth in 2022. The average influenza vaccine coverage for 2022 was **50.8%**.

Vaccine coverage – antenatal vaccines

Key findings:

- Antenatal vaccination coverage is **lower** in Aboriginal women
 - 53% vs 74.6% pertussis
 - 43.8% vs 51.3% influenza
 - 21.2% vs 49.2% COVID-19 (before or during pregnancy)
- Antenatal vaccination coverage is **lower** in women who required an interpreter at the time of delivery
 - 62.2% vs 73.4% pertussis
 - 48.3% vs 50.8% influenza
 - 29% vs 47.7% COVID-19 (before or during pregnancy)
- Antenatal vaccination coverage is **lower** in women who live in regional areas, although differences between regions are apparent
 - 70.8% vs 73.7% pertussis
 - 50% vs 50.9% influenza
 - 39.7% vs 49.2% COVID-19 (before or during pregnancy)

Thank you!

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