Estimating completeness of registration for population groups

Lauren Moran
A/g Director of Health and Vital Statistics
Australian Bureau of Statistics

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Australian birth and death registrations



- The timeliness and completeness of birth and death registrations is important from individuals, for government and for statistics
- Australia has high rates of registration for both births and deaths, but timeliness and completeness can differ for particular groups within the Australian population
- In particular, there can be longer delays in registration among Aboriginal and Torres Strait Islander people, people living in remote and very remote areas, variations according to socio-economic status or for people from particular culturally or linguistically diverse communities



Measuring completeness registrations

- Measuring completeness can be challenging. It can only be measured at a point in time and completeness increases as lagged registrations are finalised
- Finding alternative sources of information to estimate completeness is important. Available sources will differ by country, and may help to measure all or only a subset of all registrations
- For births, notifications issued by hospitals can provide a good source of information to help assess completeness
- For both births and deaths, census information and population surveys can provide important measures of registration completeness. They can also provide demographic indicators enable measurements of completeness for sub-groups in the population
- Completeness of registrations can only be measured at a point in time. Therefore differentials in the timeliness of registrations for particular population groups should be considered when measuring completeness



ABS approach of estimating completeness

Known Registrations

- All registrations for births and deaths received
- Used as the basis to build all denominators

Unknown Registrations

- Has a registration occurred and not been received by the ABS?
- Administrative issues are most commonly responsible
- These are rare
- Quality checks to reconcile these and add them into the Known registrations

Not registered but aware of vital event

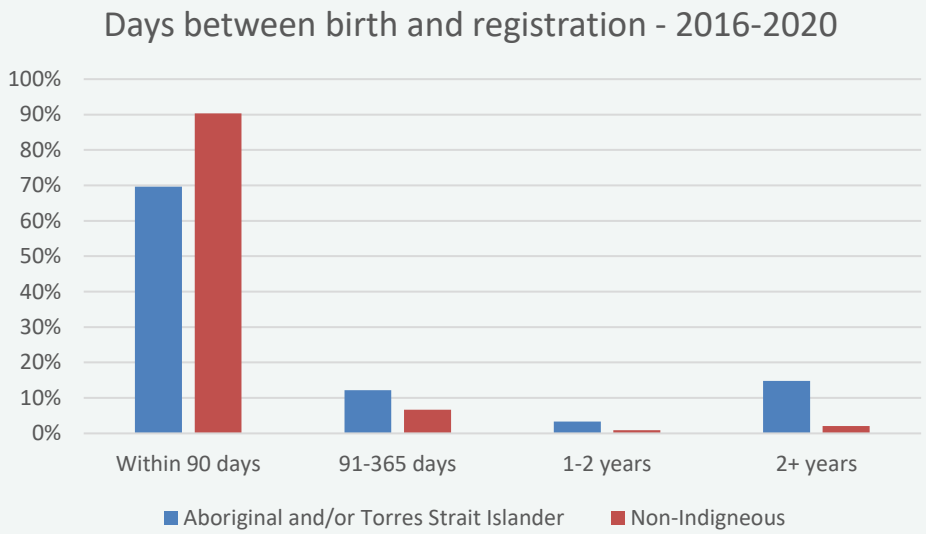
- Birth notifications from hospital
- Medical certificate of cause of death
- Coronial case
- This group can have some bias in populations who are disproportionately affected

Not registered and unaware of vital event

- These are harder to reconcile
- Some instances have included home births, deaths where no information has been sent to the registry
- This group can have some bias in populations who are disproportionately affected

Estimating completeness – timeliness





- Most birth registrations occur in the first 90 days after birth
- The timeliness of registration is lower for Aboriginal and Torres Strait Islander people compared to non-Indigenous people
- It is important to understand these differences when measuring completeness and when considering strategies to overcome barriers to registration

Estimating completeness – timeliness



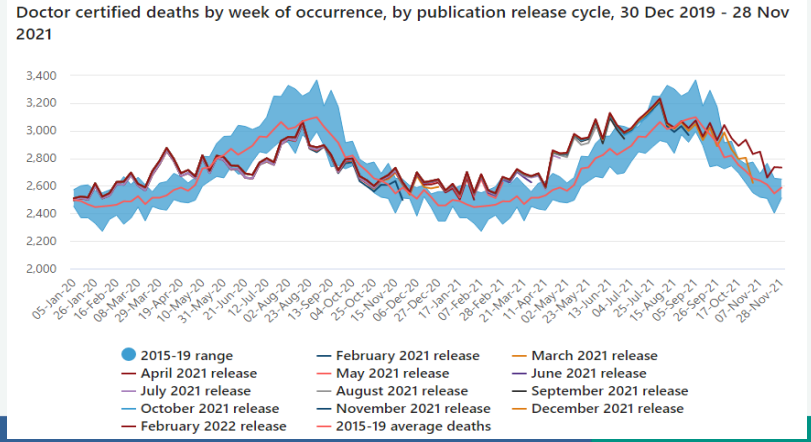
- Deaths referred to coroner are more likely to comprise of:
  - Injuries
  - Younger people
  - At risk population groups

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
Jan-20	28.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb-20	82.66	29.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar-20	91.47	81.23	30.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Apr-20	95.01	91.56	82.52	29.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
May-20	96.35	94.01	89.57	80.27	29.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jun-20	96.98	96.09	93.91	91.34	79.96	26.42	0.00	0.00	0.00	0.00	0.00	0.00
Jul-20	98.49	97.31	96.14	94.79	91.60	78.89	31.99	0.00	0.00	0.00	0.00	0.00
Aug-20	99.01	98.11	97.05	96.61	94.48	87.72	79.47	26.81	0.00	0.00	0.00	0.00
Sep-20	99.36	98.53	98.31	97.46	96.12	93.89	90.87	80.32	26.74	0.00	0.00	0.00
Oct-20	99.36	99.08	99.34	98.70	97.77	95.49	94.30	90.86	80.17	26.24	0.00	0.00
Nov-20	99.48	99.27	99.46	98.96	98.59	97.04	96.31	95.68	91.51	80.66	23.15	0.00
Dec-20	99.54	99.33	99.64	99.28	98.94	98.15	98.04	97.24	94.91	91.64	75.96	18.07
Jan-21	99.65	99.45	99.70	99.41	99.24	98.89	98.53	98.05	96.91	95.06	89.79	73.29
Feb-21	99.71	99.57	99.70	99.48	99.53	99.14	98.91	98.54	98.18	97.44	95.01	88.50
Mar-21	99.77	99.63	99.82	99.54	99.59	99.38	99.35	98.81	98.42	98.29	96.32	92.76
Apr-21	99.77	99.69	99.82	99.67	99.65	99.44	99.40	99.08	98.61	98.72	97.27	94.39
May-21	99.83	99.69	99.88	99.74	99.76	99.69	99.57	99.46	99.33	99.21	98.46	97.25
Jun-21	99.83	99.76	99.88	99.74	99.76	99.75	99.57	99.68	99.39	99.39	98.75	97.98
Jul-21	99.83	99.88	99.88	99.74	99.88	99.94	99.67	99.78	99.51	99.51	99.05	98.37
Aug-21	100.00	99.88	99.88	99.80	99.88	99.94	99.73	99.84	99.82	99.63	99.41	98.77
Sep-21	100.00	99.88	99.88	99.93	99.94	99.94	99.73	99.84	99.88	99.88	99.64	99.33
Oct-21	100.00	99.88	99.88	99.93	99.94	99.94	99.78	99.84	99.94	99.88	99.82	99.55



Learnings from last time and opportunities

- The need to produce rapid estimates of mortality to support government responses to the COVID-19 pandemic have necessitated developing a better understanding of completeness of death registrations
- Analysis showed that registrations for doctor certified deaths were approx. 95% complete after 2 months while registrations of coroner referred deaths were 80% complete at that point





Use of data linkage to measure completeness

- Data linkage is progressively opening opportunities to gain insight into complex research and policy questions – it can also provide insights into completeness of birth or death registrations
- ABS' Multi-Agency Data Integration Project (MADIP) includes census, tax, social security and Medicare data. Linkage of birth registration data to MADIP can highlight under-registration or lagged registration across regions and population subgroups
- Any projects undertaken in MADIP need ethical approval, support of data custodians and support of community groups. They are not undertaken for compliance purposes but can guide efforts to overcome registration barriers
- Linkage does not provide a simple answer to registration rates. Lags in registration remain a key issue, as do linkage rates as names and addresses change over time
- All work should be done in partnerships for stronger results

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Questions?