Immunisation coverage and the Australian Childhood Immunisation Register (ACIR)

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Aims

- Why measuring coverage is important
- How we measure coverage
- The importance of the immunisation register
- How coverage is measured using the register
Why measure immunisation coverage?

- To determine if a vaccination program has been successful
- To establish if coverage is adequate to interrupt transmission of infections
- To identify areas where coverage is low
Measuring coverage in Australia

- Coverage expressed as the % of complete immunisation by certain ages

- Coverage for each vaccine and for all vaccines due at a number of milestones

- Milestones:
  - 12 months
  - 24 months
  - 60 months

- Coverage measured using different methods
Retrospective sample surveys

- Usually:
  - at a local level
  - on an ad-hoc basis
  - lead to unreliable estimates of coverage

- Alternatively:
  - child-health records used instead of parental recall
  - tend to underestimate coverage

- Comparisons difficult due to different methodology
Population based registries

- Coverage better obtained from a population based registry system

- Some States have their own immunisation registers

- Problems:
  - incomplete reporting by immunisation providers
  - some children receive immunisations in both the private and public sectors
Other methods

- Serological surveys of samples of children
  - surveys of prevalence of antibodies to diseases undertaken periodically

- Outbreak investigations
  - usually incidental to the study’s main objective
Sample Surveys

- Australian Bureau of Statistics (ABS)
  - national immunisation sample surveys from 1983-2001

- Until 1996 - the only Australia-wide population-based data on immunisation coverage

- ABS surveys - high quality sampling methods

- AIHW – ad-hoc population-based sample surveys
  - adult pneumococcal and influenza coverage
Australian Childhood Immunisation Register (ACIR)

- 1990’s - concern about Australia's poor immunisation coverage → national initiatives

- The 1995 ‘National Childhood Immunisation Program’ initiated

- Major component - establish a national immunisation population-based register
Australian Childhood Immunisation Register (ACIR)

- Previously, registries operated in a patchy manner
- De-centralised nature of immunisation provision → national register
- ACIR - established on 1 Jan 1996, all children < 7 years old enrolled in Medicare
- Nearly a complete popn register - ~ 99% of children registered with Medicare by 12 mths
Functions of the ACIR

- Administered by Medicare Australia

- 3 main functions:
  - To provide a measure of coverage at regular intervals
  - To provide immunisation status information to parents and providers
  - To provide an effective management tool for monitoring immunisation coverage and service delivery
Notifying immunisations to ACIR

- There are 3 ways to notify immunisation services to ACIR:
  - Internet
  - Electronic data interchange
  - Manually, by completing an encounter form

- Immunisations must have been given in accordance with NHMRC guidelines
Notifying immunisations to ACIR

Medical Contraindication form

Conscientious Objection form
Notifying immunisations to ACIR

Immunisation history form

Information you need to know about the immunisation history form

When to use this form
Only use the immunisation history form when the Australian Childhood Immunisation Register (ACIR) does not have the complete immunisation history for a child and another immunisation provider performed the service. Report vaccinations administered using the standard procedures (i.e. Internet, Electronic Data Interchange, Immunisation encounter form or Medicare's online claiming).

Proof of immunisation
- Obtain proof of immunisation before completing Part B of this form and signing the declaration at Part C (i.e. written documentation or confirmation from the last immunisation provider).
- If the child's immunisation history is not available, you believe that the child is up-to-date, and the immuno compromised, tick the box at the bottom of Part B and include the date of the child's next due vaccination.

Immunisation details
- Only include immunisations on this form that are not already recorded on the ACIR. With parental/guardian consent, you can check a child's history on the ACIR by phoning the enquiry line on 1800 653 809. Note: call charges apply from mobile phones.
- The ACIR only records immunisations given on or after 1 January 1996 to children up to seven years.

Immunisation history details at Part B
- If you do not know the vaccine brand name, you can write the generic term in the Other (please specify) section (e.g. OPV instead of Infant). If you do not know the vaccine antigen name, write the antigen name in the Other (please specify) section.

Immunisations given overseas
- If the immunisations were given to the child while overseas, note this in the If given overseas column.
- Please write the generic vaccine term in the Other (please specify) section if you do not know the vaccine brand name, or if it has not been used in Australia (e.g. DTaP will suffice for diphtheria, tetanus, and pertussis vaccine, as the vaccine term is well known).

Provider declaration
- A recognised immunisation provider must complete Part C (e.g. GP, council, health service, etc.).
- Supply your Medicare provider number (for medical practitioners) or ACR registration number (for other immunisation providers) in the space provided.

Returning your form
The immunisation history form is produced in triplicate.
- Send the ORIGINAL to the Department of Human Services, GPO Box 295, HOBART TAS 7001 or lodge at your local Medicare Service Centre.
- Retain the PROVIDER'S COPY for your own medical records.
- Ensure the PARENT'S COPY is given to the parent or guardian for their records.

Replacement stationery
Additional copies of the Immunisation history form can be requested by contacting the ACIR's stationery suppliers on 1800 007 307 (postcode form number MM0-3), printed at the website humanity.gov.au/provider > Forms publications and statistics > Other program forms - ACR forms - printed forms will not appear in triplicate.

Privacy notice
Confidential. Medicare Australia, Child Support and CMS Australia are services within the Australian Government Department of Human Services (Human Services).
- Your personal information is protected by law, including the Privacy Act 1988. Your information is collected for Social Security, Family Assistance, Medicare, Child Support and CCS purposes. This information may be required by the providers within each service's legislation or voluntarily given by you when you apply for services or payments.
- Your information will be used for the assessment and administration of payments and services. Your information may also be used within Human Services, where you have provided consent or if it is required or authorised by law. Human Services may disclose your information to Commonwealth departments, other persons, bodies or agencies only where you have provided consent or if it is required or authorised by law.
- You can get more information about privacy by going to our website humanity.gov.au/privacy or requesting a copy of the full privacy policy at one of our Service Centres.

For more information
For further information about the ACIR go to our website humanity.gov.au/acir or call 1800 653 809.
ACIR data providers

- Different types of providers:
  - General practitioners
  - Councils – Victoria
  - Hospitals and community health centres

- The ACIR is expensive:
  - Total information payments in 1 year = $9 million
  - Immunisation providers - paid $6.00 per notification ($3.00 in Queensland)
Incentives for parents

- Parents with children who are NOT up to date with immunisations DO NOT receive:
  - Child Care Benefit payments
  - Family Tax Benefit Part A supplement payments

- These payments are means-tested.

- Parent incentives have been shown to be effective
How is coverage calculated using the ACIR?

- The ‘cohort method’ - used by WHO

- Cohort of children defined by date of birth in 3-mth groups
  - eg. children born between 1st Jan and 31st Mar 2012

- The immunisation status is assessed at the 3 key milestones:
  - 12 months
  - 24 months
  - 60 months
How is coverage calculated using the ACIR?

- The proportion (p) of children ‘fully immunised’ is calculated as:
  - **Numerator** (n) = the count of those children who have completed a milestone schedule
  - **Denominator** (d) = the total number of children in the cohort
- coverage (p) = n/d x 100
Limitations of ACIR

- Under-reporting by providers
  - “Rubbish in, rubbish out”

- Early days - under-reporting → under-estimation of coverage - up to 10%

- Initiatives to improve reporting by providers

- Under-estimation of coverage at 1 year of age now < 3%

- Greater confidence in coverage estimates
Trends in vaccination coverage estimates from the ACIR for 12, 24 and 60 month olds

Assessment age changed from 72 months to 60 months

- Fully vaccinated by 12 mths
- Fully vaccinated by 24 mths
- Fully vaccinated by 60 mths
- Fully vaccinated by 72 mths

Coverage (%)

Coverage assessment date for each cohort
Immunisation coverage figures

- Coverage at 12-mths - reported as 92%
  - Increases due to:
    - improved reporting by providers
    - an actual increase in immunisation uptake

- Some states better than others
Percentages of children aged 2 years fully immunised, by SA3, 2012-13

Percentages and numbers of children aged 2 years fully immunised, by SA3, 2012-13

<table>
<thead>
<tr>
<th>Highest group</th>
<th>Children in group</th>
<th>Fully immunised</th>
<th>Not fully immunised</th>
</tr>
</thead>
<tbody>
<tr>
<td>95.0 – 100.0%</td>
<td>30,837</td>
<td>29,484</td>
<td>1,353</td>
</tr>
<tr>
<td>90.5 – 94.9%</td>
<td>128,727</td>
<td>120,655</td>
<td>8,072</td>
</tr>
<tr>
<td>85.0 – 90.0%</td>
<td>100,390</td>
<td>97,228</td>
<td>9,167</td>
</tr>
<tr>
<td>80.0 – 84.9%</td>
<td>31,037</td>
<td>27,682</td>
<td>3,355</td>
</tr>
<tr>
<td>75.0 – 79.9%</td>
<td>1,000</td>
<td>820</td>
<td>180</td>
</tr>
<tr>
<td>Lowest group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65.0 – 69.9%</td>
<td>Not available</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 300,064 | 277,069 | 22,495

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1. Interpret with caution. The eligible population is between 20 and 100 children, therefore small data errors can affect results.
2. SA3 data exclude a number of small and unallocated polindies. SA3s with fewer than 26 registered children in the age group are not reported. For more information see Healthy Communities: Immunisation rates for children in 2012-13, Technical Supplement at www.myhealthymcommunitys.gov.au.

Sources:
- National Centre for Immunisation Research & Surveillance.
- National Health Performance Authority analysis of Department of Human Services, Australian Childhood Immunisation Register statistics 2012-13, data supplied 6 February 2014.
Official vaccine objection for Statistical Area 3 areas – 2013 (cohort born Jan 07 – Dec 12)

% official objection
- 5 to 11
- 4 to 6
- 2 to 4
- 1 to 2
- 0 to 1

SOURCE: Australian Childhood Immunisation Register
Indigenous immunisation coverage – pneumococcal and hepatitis A, 2012

Pneumococcal
Hepatitis A
13vPCV catch-up campaign begun
International immunisation coverage comparison
- 3 doses of DTP by 12 months, 2012

Country: Eritrea, Albania, China, Sweden, UK, US, Brazil, Germany, New Zealand, Australia, Kenya, Pakistan, India, Indonesia, Papua New Guinea

% coverage: 50, 60, 70, 80, 90, 100

NATIONAL CENTRE FOR IMMUNISATION
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Key Points

- Measuring coverage is important if we are to maintain immunisation uptake over time

- The ACIR is the best tool we have for measuring coverage in Australia

- The ACIR has lead to improved immunisation uptake through the identification of under-immunised children