Experience with cocoon implementation and impact: Australia

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Implementation
Cocoon implementation, Australia

- **Northern Territory**: fathers and other household carers for children <7m, ~90% women vaccinated by discharge.
- **New South Wales**: Boostrix: 5,000 doses/yr.
- **Australian Capital Territory**: strategy: HCWs, childcare centres, schools.
- **Victoria**: Boostrix: ~210,000 doses.
- **Queensland**: Boostrix doses to July 2011, ~761,479 doses.
- **Tasmania**: Boostrix doses to July 2011, ~25,000 doses.
- **South Australia**: Boostrix: ~157,503 doses.
- **Western Australia**: Boostrix: 28,305 in first 6 months.

**Key Points**:
- **Postnatal mothers and others encouraged**.
- **Parents, grandparents, careers of infants <12m**.
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- **Parents, grandparents, careers of infants <6m**.
- **Parents, grandparents, live-in careers of infants <6m**.
- **Parents, grandparents, rare carer allowance**.
- **Parents**.
- **Health Care Card Holders or Pensioners**.
- **GPs added**.
- **Adacel > Boostrix**.
- **Some maternity hospital implementation**.
- **Adacel in first 6 months**.
- **Improved grandparent reach with GPs**.
Impact assessment
Before we start

- what vaccine effectiveness might be reasonably expected for cocoon strategy?
  - parent as source of infection for infant
    - where source identified (~50-70%)
    - mother + father maximum value ~60%
  - sibling value often similar or higher than mother
- modeling
  - 50 to 70% reduction in infant cases (0 to 3m) when used in combination with childhood + adolescent programs
Planned assessments

**New South Wales**
- case-control study
- cases and controls: deaths excluded (BDM linkage)
- cases: notifications <12m after 01 April 2009
- controls:
  1. perinatal data collection (n=1)
- matching: dob +/- 1 day (not same day) and SSD
- 1:1 cases:controls
- ~635 per group
  n = 1,270

**Queensland**
- case-control study
- cases and controls: deaths excluded (BDM linkage)
- cases: notifications <12m after 01 May 2009
- controls:
  1. perinatal data collection (n=2)
  2. test negative (n=2)
- matching:
  1. date/hospital of birth
  2. date of birth/test
- 1:4 cases:controls
- ~225 cases + 900 controls
  n = 1,125
## Samples sizes

<table>
<thead>
<tr>
<th>p (controls %)</th>
<th>p (cases %)</th>
<th>OR</th>
<th>NSW (1:1) n (cases), N (total)</th>
<th>QLD (1:4) n (cases), N (total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>20</td>
<td>0.38</td>
<td>83, 166</td>
<td>102, 510</td>
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<td>25</td>
<td>0.5</td>
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<tr>
<td>30</td>
<td>10</td>
<td>0.58</td>
<td>292, 584</td>
<td>168, 840</td>
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</tbody>
</table>
Issues

- study conduct
  - complex process for identifying controls
  - privacy and logistic issues in contacting cases and controls
  - mail and telephone contact time consuming
  - unable to locate
  - consent refusal
  - validating vaccination status
- timeframes
  - aiming to have data available by mid to late-2012
Other options

- use notification and hospitalisation data
  - pre- and post- comparison
  - state-by-state comparison
  - different programs with different periods of introduction
Conclusions

- marked variation in state/territory programs
  - timing and duration
  - eligibility
- opportunity to provide impact data
  - NSW and QLD case-control studies
  - challenges in design and implementation
  - results available 2012
  - similar methods should allow comparison/pooling
Acknowledgements

- act: Carolyn Banks
- nsw: Sue Campbell-Lloyd, Dennis Meijer
- nt: Chris Nagy, Ros Webby
- qld: Vicki Bryant, Karen Peterson
- sa: Maureen Watson, Anne Kohler
- tas: Mark Veitch, Simone Duncombe
- vic: Michael Batchelor
- wa: Paul Effler, Debbie Turner
- NCIRS: Andrew Habig, Helen Quinn, Clayton Chui, Peter McIntyre
- QH: Niall Conroy, Michael Nissen