Antenatal influenza and pertussis uptake among Aboriginal mothers in Australia

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Disclosures

• Annette Regan has no relevant financial relationship with the manufacture(s) of commercial services discussed in this CME activity
• Annette Regan does not intend to discuss any unapproved/investigational uses of commercial products in this presentation
Antenatal Vaccination Programs in Australia

2003
- Influenza vaccine funded for pregnant women under NIP

2011
- RANZCOG recommendation for influenza vaccination in any trimester of pregnancy and women planning pregnancy

2014
- QLD and VIC introduce antenatal pertussis vaccination programs

2015
- All states and territories have antenatal pertussis vaccination programs & proposal for national funding
Measuring Vaccine Coverage

- Limited availability of information on adult vaccinations
- Cross-sectional surveys needed to measure coverage in adults
- 2012-2016: annual surveys of random sample of 400-800 mothers
- 2015: survey of 100 Aboriginal mothers in Western Australia
- Survey – collects information on vaccination, whether vaccination was recommended, and reasons why the woman was/was not vaccinated
Vaccine coverage in pregnant women

- Influenza vaccine
- Pertussis vaccine

- Pertussis vaccine program introduced

Percent of women immunised: 2012 - 2016
**Whooping cough**

- Whooping cough is easily transmitted by infected droplets in the air from coughing and sneezing.
- 85% of unimmunised people who come in contact with someone who has whooping cough will get it.
- 1 in 200 babies who get whooping cough die from it.

**Flu**

- Pregnant women who get the flu are at higher risk of hospitalisation, and even death, than non-pregnant women.
- 1500 Australian children under 5 are hospitalised with flu each year.
- Babies are 25% less likely to be hospitalised from flu-related illness if their mums are immunised against flu while pregnant.
- Risk of stillbirth is reduced by 51% in pregnant women who are immunised against flu.

**Vaccinate From 28**

- 40% of pregnant women in WA did not have a flu vaccine in their last pregnancy.
- 1/4 of women in WA did not have a whooping cough vaccine in their last pregnancy.

Don't put yourself or your baby at risk.
Vaccine coverage in Aboriginal & Torres Strait Islander women

Percent of women immunised

<table>
<thead>
<tr>
<th></th>
<th>Influenza vaccine</th>
<th>Pertussis vaccine</th>
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</thead>
<tbody>
<tr>
<td>Aborginal mothers in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>all WA mothers</td>
<td>50%</td>
<td>80%</td>
</tr>
</tbody>
</table>
Vaccination providers for pregnant women
Factors associated with vaccine uptake during pregnancy

- Factors positively and significantly associated with antenatal vaccination uptake
- Factors negatively and significantly associated with antenatal vaccination uptake
- Factors not significantly associated with antenatal vaccination uptake

<table>
<thead>
<tr>
<th>Factors</th>
<th>Influenza</th>
<th>Pertussis</th>
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</thead>
<tbody>
<tr>
<td>Recommended Vaccination by HCP</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>81% v 19%</td>
<td>85% v 19%</td>
</tr>
<tr>
<td>Living in Rural Area</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>74% v 39%</td>
<td>69% v 51%</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>X</td>
<td>--</td>
</tr>
<tr>
<td>Quintile 3 and 5 (least disadvantaged)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maternal Age</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>If mother has a chronic disease</td>
<td>--</td>
<td>--</td>
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<tr>
<td>Mothers level of Education</td>
<td>--</td>
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<tr>
<td>Antenatal Care Provider</td>
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</tbody>
</table>
Reasons for vaccination during pregnancy

- To protect baby (GP recommended)
- Worried about disease
- Family, friends, or media
- Midwife recommended
- OB recommended
- Normally get vaccinated

- Aboriginal mothers
- All mothers
Reasons women go unvaccinated in pregnancy

- No provider recommendation
- Worried about side effects
- Worried would harm baby
- Don't normally get vaccinated
- Was advised against
- Already received or planning to receive after pregnancy

- Aboriginal mothers
- All mothers
Vaccination during pregnancy

• 60% of women in Australia receive an influenza vaccine and 80% receive a pertussis vaccine during pregnancy

• There is no significant difference between Aboriginal mothers and non-Aboriginal mothers in terms of antenatal vaccination uptake and reasons for vaccination or non-vaccination

• Opportunities to improve vaccine coverage and protection to infants in all pregnant women
Vaccination during pregnancy

• Pregnant women are highly motivated to protect their infants against serious disease

• An antenatal care provider’s recommendation is the single most important factor associated with uptake of vaccination among both Aboriginal and non-Aboriginal mothers

• Antenatal care provider’s should routinely advise all pregnant mothers to receive the influenza and pertussis vaccination and offer it at the time of recommendation
Acknowledgements

• Aboriginal women who assisted in data collection and participated in the survey

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• Department of Health Western Australia

• Wesfarmers Centre of Vaccines and Infectious Diseases (Telethon Kids Institute) & American Academy of Pediatrics
Agenda

1. Introduction and overview maternal immunization
   Laura Hammitt, MD, Assistant Professor, Center for American Indian Health, Johns Hopkins Bloomberg School of Public Health

2. Antenatal influenza and pertussis uptake among Aboriginal mothers in Australia
   Annette Regan, PhD, MPH, Research Fellow, Curtin University School of Public Health

3. Validation of an algorithm to measure maternal vaccine uptake
   Cheyenne Jim, MS, Indian Health Service Immunization Program Analyst

4. Facilitators and barriers to maternal vaccine uptake among Navajo and White Mountain Apache women
   Jessica Atwell, PhD, MPH, Assistant Scientist, Center for American Indian Health, Johns Hopkins Bloomberg School of Public Health

5. Discussion/Questions
   All