KEEP CALM AND Catch UP

DON'T PANIC!

ORGANIZE.
The Objective

**Catch-up vaccination**

Catch-up vaccination aims to provide optimal protection against disease as quickly as possible by completing a person’s recommended vaccination schedule in the shortest but most effective time frame.

- Take every opportunity to review a person’s vaccination history
- **Give them appropriate vaccinations as needed by:**
  - Planning and documenting the recommended catch up schedule
  - Discuss the schedule with the person to be vaccinated or their parent/carer
- **Assess vaccination status based on the National Immunisation Program + NSW Schedule**
Assessing immunisation status

Principles of catch-up vaccination

Catch-up resources

Using the catch-up worksheet for children aged <10 years

Catch-up guidelines for individual vaccines for children aged <10 years

Catch-up schedules for people aged ≥10 years

References
Confirming a person’s vaccination history

Written documentation of vaccination is important to assess a person’s vaccination status. Make **every effort** to confirm previous vaccination and obtain documentation.

How immunisation service providers manage inadequate records should be based on:

- the age of the person being vaccinated
- whether they received previous vaccines in Australia or overseas
- the vaccines being considered for catch-up
Where can we find records??

- Personal Health Record e.g Blue Book
- AIR
- GP records
- Overseas vaccination records (translated)
- Public Health Unit (High School Vaccination Program)
- Hospital Staff Health
- HPV Register - all transferred to AIR as of 1/11/2018
- Q Fever Register
Note the Department of Social Services provides a free document translating service for Australian citizens and new migrants settling permanently in Australia. Within the first two years of arriving in Australia, eligible individuals can have key personal documents (including vaccination records) translated into English, free of charge, to assist with settlement into the community. The **Free Translating Service** is available on the Department of Social Services website.


Welcome to the **Free Translating Service**

This service allows holders of certain types of visas to get key personal documents translated for free.

Start an application
Scenario

- Contacted by a GP in March 2017 to provide a catch up vaccination schedule for an unvaccinated 22m old
- Mother stated child had never received any vaccinations
- Catch up schedule prepared:
### Catch up visit 1

<table>
<thead>
<tr>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal</td>
<td>Prevenar13</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Measles, Mumps, Rubella</td>
<td>MMR II or Priorix</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Meningococcal C</td>
<td>NeisVac C</td>
<td>1</td>
</tr>
</tbody>
</table>

### Catch up visit 2

<table>
<thead>
<tr>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks after V1</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Measles, Mumps, Rubella, Varicella</td>
<td>Priorix tetra or Proquad</td>
<td>2</td>
</tr>
</tbody>
</table>

### Catch up visit 3

<table>
<thead>
<tr>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months after V2</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>3</td>
</tr>
</tbody>
</table>

### Catch up visit 4

<table>
<thead>
<tr>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months after V3</td>
<td>Diphtheria, Tetanus, Pertussis</td>
<td>Infanrix</td>
<td>4</td>
</tr>
</tbody>
</table>
Received fax from practice on 29/1/18 with the dates of when vaccines had been given

On checking AIR to see if this was actually true discovered:

- Infanrix IPV and PCV13 given 4/2/16
- Infanrix IPV, PCV13 given 31/3/16

<table>
<thead>
<tr>
<th>Catch up visit 1</th>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Now</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>1</td>
<td>24.4.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pneumococcal</td>
<td>Prevenar13</td>
<td>1</td>
<td>21.8.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measles, Mumps, Rubella</td>
<td>MMR II or Priorix</td>
<td>1</td>
<td>25.9.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Meningococcal C</td>
<td>NeisVac C</td>
<td>1</td>
<td>5.11.17</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 2</th>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks after V1</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>2</td>
<td>29.5.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Measles, Mumps, Rubella, Varicella</td>
<td>Priorix tetra or Proquad</td>
<td>2</td>
<td>29.1.18</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 3</th>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months after V2</td>
<td>Diphtheria, Tetanus, Pertussis, Hib, Polio, Hep B</td>
<td>Infanrix hexa</td>
<td>3</td>
<td>3.7.17</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 4</th>
<th>Interval/time frame</th>
<th>Disease/s covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months after V3</td>
<td>Diphtheria, Tetanus, Pertussis</td>
<td>Infanrix</td>
<td>4</td>
<td>14.7.17</td>
<td></td>
</tr>
</tbody>
</table>
- At time of second contact child was 2 years old
- Still required D3 Hepatitis B and D4 Infanrix to be UTD
- Continue with routine schedule at 4 years

<table>
<thead>
<tr>
<th>Date</th>
<th>Antigen</th>
<th>Dose No.</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/2/16</td>
<td>DTPa, Polio</td>
<td>1</td>
<td>Medical Centre 1</td>
</tr>
<tr>
<td></td>
<td>PCV13</td>
<td>1</td>
<td>Medical Centre 1</td>
</tr>
<tr>
<td>31/3/16</td>
<td>DTPa, Polio</td>
<td>2</td>
<td>Medical Centre 1</td>
</tr>
<tr>
<td></td>
<td>PCV13</td>
<td>2</td>
<td>Medical Centre 1</td>
</tr>
<tr>
<td>24/4/17</td>
<td>DTPa, Polio</td>
<td>3</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td></td>
<td>HBV</td>
<td>1</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td></td>
<td>Hib</td>
<td>1</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td>29/5/17</td>
<td>HBV</td>
<td>2</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td></td>
<td>Hib</td>
<td>2</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td>21/8/17</td>
<td>PCV13</td>
<td>3</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td>25/9/17</td>
<td>MMR</td>
<td>1</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td>5/11/17</td>
<td>MenC, Hib</td>
<td>1 &amp; 3</td>
<td>Medical Centre 2</td>
</tr>
<tr>
<td>29/1/18</td>
<td>MMRV</td>
<td>2</td>
<td>Medical Centre 2</td>
</tr>
</tbody>
</table>
Lessons learned...

- **ALWAYS** check AIR or school records *even if* parent says they haven’t been vaccinated
- **NEVER** change the intervals to shorter than recommended minimum
- If intervals change due to parental preference, check timing or contact PHU for assistance
Incomplete documentation of previous vaccination

If previous vaccination cannot be confirmed, assume that the person has not received the vaccine(s) they need.

For most vaccines (except Q fever), there are no adverse events associated with additional doses in people who are already immune.

Injection site reactions may increase after frequent additional doses of:

- diphtheria-containing vaccines
- pertussis-containing vaccines
- tetanus-containing vaccines
- pneumococcal polysaccharide vaccines
However, in most cases, the benefits of protection from the vaccine will outweigh the risk of an adverse reaction.

Significant adverse events are rarely associated with additional (potentially repeated) doses of:

- MMR (measles-mumps-rubella) vaccine
- VV (varicella vaccine)
- IPV (inactivated poliovirus) vaccine
- hepatitis B vaccine
What about serology?

Laboratory testing to guide catch-up vaccination

In some cases, laboratory testing can determine whether the person has immunity from previous vaccination or infection, and may be useful to guide the need for catch-up vaccination.

Laboratory testing to determine immunity as a result of previous vaccination or infection is only reliable for certain diseases:

- hepatitis A
- hepatitis B
- measles
- mumps
- rubella
- varicella (but does not always detect vaccine-induced immunity)
Catch-up vaccination aims to provide the best protection against disease as quickly as possible by completing a child’s recommended vaccination schedule.

1. Confirm the child’s vaccination history
   - Review the child’s vaccination history to determine:
     - If you cannot confirm previous vaccination, avoid the vaccine. Children can safely receive most vaccines if uncertainty exists.
     - If you are not sure how to plan the catch-up schedule or it is complicated, seek further advice from your state’s health department.

2. Plan a catch-up schedule
   - Consider laboratory testing for immunity to some diseases
     - Consider laboratory testing to guide catch-up vaccination for:
       - Hepatitis A and B
       - MMR
       - Varicella
     - Do not use laboratory testing for any other diseases.
     - Do not use past infection to guide the catch-up schedule.

   - Check that any previous doses were received at the correct age and dosing intervals.
   - In almost all cases, do not repeat valid doses — count them as part of the schedule.

3. Start the catch-up schedule
   - Discuss the catch-up schedule with the parent or carer before starting.

Refer to catch-up resources
- Use the catch-up resources in the Australian Immunisation Handbook to help plan a catch-up schedule.
Principles of catch-up vaccination

Apply these principles when planning catch-up vaccination:

- The scheduled interval between doses may be shorter or longer than the standard interval, and the number of doses needed may decrease with age at starting vaccination. For example, if starting vaccination against *Haemophilus influenzae* type b at 15 months of age, children need only 1 dose of (any) Hib (*Haemophilus influenzae* type b) vaccine.

- As a child gets older, the recommended number of vaccine doses may change, or the child may not need any doses. This is because they become less vulnerable to specific diseases as they get older.
• For incomplete or overdue vaccinations, always build a catch-up schedule based on the previous documented doses the person has received. In almost all cases, do not start the schedule again, regardless of the interval since the last dose. Count previous doses as part of the schedule. One exception to this rule is for oral cholera vaccine (see Cholera).

• If more than 1 vaccine is overdue, give 1 dose of each due or overdue vaccine at the first catch-up visit. Do not defer due or overdue vaccines (see Giving multiple vaccine injections at the same visit in Administration of vaccines). Schedule further required doses after the appropriate minimum interval (see Table. Minimum acceptable dose intervals for children <10 years of age).
Catch-up resources

- online catch-up calculator
- World Health Organization online list of overseas immunisation schedules
- catch-up worksheet for children <10 years of age
- Table, Minimum acceptable age for the 1st dose of scheduled vaccines in infants in special circumstances
- Table, Number of vaccine doses the child should have received by their current age
- Table, Minimum acceptable dose intervals for children <10 years of age
- Table, Catch-up schedule for *Haemophilus influenzae* type b (Hib) vaccination for children <5 years of age
- Table, Catch-up schedule for 13vPCV for Aboriginal and Torres Strait Islander children living in NT, Qld, SA or WA ONLY, and all children with any medical condition(s) associated with an increased risk of invasive pneumococcal disease, aged <5 years
- Table, Catch-up schedule for 13vPCV for Aboriginal and Torres Strait Islander children living in NSW, Vic, Tas or ACT, and all children who do not have medical condition(s) associated with an increased risk of invasive pneumococcal disease, aged <5 years
- Table, Catch-up schedule for people >10 years of age (for vaccines recommended on a population level)
# Resource. Catch-up worksheet for children <10 years of age for National Immunisation Program vaccines

**Catch-up worksheet**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Last dose given (dose number and date)</th>
<th>Number of doses needed at current age</th>
<th>Dose number due now</th>
<th>Further doses (interval or date)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTPa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poliovirus (IPV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table. Minimum acceptable age for the 1st dose of scheduled vaccines in infants in special circumstances

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum age for 1st dose in special circumstances</th>
<th>Action if a vaccine dose is inadvertently given before the recommended minimum age(^2)</th>
</tr>
</thead>
</table>
| DTPa                                         | 6 weeks                                          | • If a child received their 1st dose of DTPa-containing vaccine between >28 days and <42 days (6 weeks) of age, it does not necessarily need to be repeated. Limited data suggest that receiving the vaccine at this age will still be safe and immunogenic. Follow the National Immunisation Program schedule for future doses, with the next dose of DTPa-containing vaccine given at 4 months of age.  
  • If a child received their 1st dose of DTPa-containing vaccine at ≤28 days of age, it is recommended that the dose is repeated. This repeat dose should ideally be given at 2 months of age. Follow the National Immunisation Program schedule for future doses, with the next dose of DTPa-containing vaccine given at 4 months of age. |
<p>| Hepatitis A (Aboriginal and Torres Strait Islander children in NT, Qld, SA and WA only) | 12 months                                        | • If a child receives their 1st dose of hepatitis A vaccine at &lt;12 months of age, and they need ongoing protection against hepatitis A, repeat the 1st dose. |</p>
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Child aged 0 to &lt;2 months</th>
<th>Child aged 2 to &lt;4 months</th>
<th>Child aged 4 to &lt;6 months</th>
<th>Child aged 6 to &lt;12 months</th>
<th>Child aged 12–18 months</th>
<th>Child aged &gt;18 months to &lt;4 years</th>
<th>Child aged 4 years to &lt;10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTPa</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5 (unless dose 4 received at &gt;3.5 years of age, then dose 5 is not needed)</td>
</tr>
<tr>
<td>Hepatitis A (Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA only)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td></td>
<td>2 (contact state or territory health authorities for advice about catch-up in children &gt;2 years of age)</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>0 (birth dose is recommended but no need to catch up if missed)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
Table. Minimum acceptable dose intervals for children <10 years of age

These are not the routinely recommended intervals between vaccine doses. These minimum intervals are only to be used for catch-up vaccination. Catch-up using a combination vaccine must meet the minimum intervals for all antigens.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Minimum interval between doses 1 and 2</th>
<th>Minimum interval between doses 2 and 3</th>
<th>Minimum interval between doses 3 and 4</th>
<th>Minimum interval between doses 4 and 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>DTPa</td>
<td>4 weeks</td>
<td>4 weeks</td>
<td>6 months</td>
<td>6 months (unless dose 4 received at &gt;3.5 years of age, then dose 5 is not needed)</td>
</tr>
<tr>
<td>Hepatitis A (Aboriginal and Torres Strait Islander children living in NT, Qld, SA and WA, only)</td>
<td>6 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>Hepatitis B (excluding birth dose)</td>
<td>1 month</td>
<td>2 months</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>MMR</td>
<td>4 weeks</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
</tbody>
</table>
Table. Catch-up schedule for Haemophilus influenzae type b (Hib) vaccination for children <5 years of age

This table assumes that the minimum interval between doses has been met.

<table>
<thead>
<tr>
<th>Number of Hib doses received previously</th>
<th>Current age</th>
<th>Age at 1st dose of Hib vaccine</th>
<th>Age at 2nd dose of Hib vaccine</th>
<th>Age at 3rd dose of Hib vaccine</th>
<th>Number of further primary dose(s) needed</th>
<th>Number of booster doses needed at age ≥ 18 months, or 2 months after the last dose (whichever is later)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>&lt; 7 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>7–11 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>12–17 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>18–59 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>1</td>
<td>na</td>
</tr>
<tr>
<td>1</td>
<td>&lt; 12 months</td>
<td>&lt; 7 Months</td>
<td>na</td>
<td>na</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>&lt; 12 months</td>
<td>7–11 months</td>
<td>na</td>
<td>na</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>12–17 months</td>
<td>&lt; 12 months</td>
<td>na</td>
<td>na</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>12–17 months</td>
<td>≥ 12 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>1</td>
</tr>
</tbody>
</table>
Table. Catch-up schedule for 13vPCV for Aboriginal and Torres Strait Islander children living in NSW, Vic, Tas or ACT, and all children who do not have medical condition(s) associated with an increased risk of invasive pneumococcal disease, aged <5 years

<table>
<thead>
<tr>
<th>Number of doses received previously</th>
<th>Age at presentation</th>
<th>Age at 1st dose of PCV</th>
<th>Age at 2nd dose of PCV</th>
<th>Age at 3rd dose of PCV</th>
<th>Number of further dose(s) required</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>&lt;12 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>3</td>
</tr>
<tr>
<td>12–59 months</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>na</td>
<td>na</td>
<td>2</td>
</tr>
<tr>
<td>12–59 months</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>na</td>
<td>na</td>
<td>1</td>
</tr>
<tr>
<td>12–59 months</td>
<td>≥12 months</td>
<td>na</td>
<td>na</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>na</td>
<td>1</td>
</tr>
<tr>
<td>12–59 months</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>&lt;12 months</td>
<td>na</td>
<td>1</td>
</tr>
</tbody>
</table>
Challenges / Obstacles

- Parental beliefs/concerns about overloading
- Previous AEFI or sibling/parent AEFI
- Access to services
- Unwell child or sibling or parent
- Misinformation
- Apathy
Table 2: GP/Practice Nurse catch-up vaccination plan

Instructions: Use this form in conjunction with Table 1. Complete all sections below, working from left to right columns.

If you would like your calculations checked please fax this form to:
4221 6700

PATIENT'S NAME: ______________________
DOB: ___/___/______
Current age: (years) (months) (weeks)
MEDICARE NO: ______________________

<table>
<thead>
<tr>
<th>Vaccine Antigens</th>
<th>Date(s) all doses given</th>
<th>Age when dose was given</th>
<th>No. doses required at current age</th>
<th>No. further doses required</th>
<th>Australian NIP vaccine formulations for catch-up in children ≤10 years of age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(complete all relevant dates)</td>
<td>(circle one)</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
</tr>
<tr>
<td>Diphtheria, Tetanus, Pertussis (DT only vaccines are not valid for the purposes of determining catch-up)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Poliomyelitis (IPV or OPV)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Booster dose recommended at 4 years of age, if the 4th dose was given before 3.5 years of age, it should be repeated.</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Birth: N/A</td>
<td>(ex. blast dose)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
</tr>
<tr>
<td>Administered overseas?**</td>
<td>yes / no</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
</tr>
<tr>
<td>Measles Mumps Rubella (MMR) (NOT including measles only vaccine)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Meningococcal C [MenCCV/4vMenCV]</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Conjugate only. Polysaccharide (4vMenPv) vaccine is not counted as a valid dose.</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Varicella</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Haemophilus Influenzae (Hib) (Only required if &lt;5 years old)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
<tr>
<td>Pneumococcal (PCV) (Only required if &lt;5 years old - unless underlying medical risks)</td>
<td>None</td>
<td>One</td>
<td>Two</td>
<td>Three</td>
<td>Four</td>
</tr>
</tbody>
</table>

CATCH-UP PLAN
Check minimum dose intervals between each dose as per Table 1.

Choose the vaccine with the least amount of additional antigens.

DTPA containing vaccines
- Infanrix Hexa (DTPA + Polio + Hib + HepB)
- Infanrix/Triscap (DTPA only)
- Infanrix IPV (DTPA + Polio)
- Quadracel (DTPA + Polio)

NB: Boostrix and Adacel brands are not registered for use ≤10 yrs of age.

MMR combination vaccines
- MMR II or Priorix (MMR only)
- Priorix Tetra or Proquad (MMRVI) - not for dose 1 MMR

NB: MMRV brands are not registered for use ≤14 yrs of age.

Meningococcal vaccines
- Nimenrix* (4vMenCV)
- Menitorix (MenCCV + Hib) - for Hib catch-up only if Act-HIB unavailable

NB: This is the only funded 4vMenCV for catch-up in <10 yrs of age.

Monovalent vaccines
- Engerix-B or H-B-Vaxx paediatric formulations (Hep B 8)
- Varivax or Varifrax (varicella only)
- IPOL (Polio only)
- Prevenar 13 (PCV only)
- Act-HIB (Hib only)

Give all the vaccines that are due now – do not defer.

Visit 1 give now:

Visit 2 (Min. months later) give:

Visit 3 (Min. months later) give:

Visit 4 (Min. months later) give:

* Menopaternal Hep B vaccine at birth, 1-2 months and 6-18 months of age is an acceptable alternative overseas Hep B schedule.
** Ensure minimum intervals have been observed as per Table 1.

Updated September 2016

OFFICE USE ONLY: Checked by _______________ (ISPHU Immunisation Team) Date: ___/___/___
Calculating catch-up vaccination requirements for <10 year olds.
Table 1 sets out the vaccines which are recommended for children under 10 years of age and the doses required for their current age. Use Table 1 in conjunction with Table 2: GP/Practice Nurse catch-up vaccination plan to calculate what vaccines are required.

Table 1: Standard Vaccination Catch-up Recommendations for children aged <10 years.
(adapted from The Australian Immunisation Handbook 10th edition [updated online])

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Current age</th>
<th>Minimum dose interval between dose 1 and 2</th>
<th>Minimum dose interval between dose 2 and 3</th>
<th>Minimum dose interval between dose 3 and 4</th>
<th>Minimum dose interval between dose 4 and 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6 weeks to &lt;4 months</td>
<td>4 to &lt;5 months</td>
<td>6 to &lt;12 months</td>
<td>12 to 18 months</td>
<td>&gt;18 months to &lt;4 years</td>
</tr>
<tr>
<td>DTPA</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Poliomyelitis (IPV)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Hepatitis B (excl. birth dose)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MMR</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MenCCV/4vMenCV</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Varicella</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>Age limits apply - see Handbook Table 4.1.17</td>
<td>NO CATCH-UP</td>
<td></td>
<td>Recommended interval between primary doses is 4 weeks. Booster doses are given &gt;18 months or 8 weeks after the last dose, whichever is later.</td>
<td></td>
</tr>
</tbody>
</table>

Haemophilus influenza type B (Hib) — No catch-up >5 years.
See Handbook Table 2.1.8 for Hib catch-up schedule. Recommended interval between primary doses is 4 weeks. Booster doses are given >18 months or 8 weeks after the last dose, whichever is later.

Pneumococcal (PCV) — No catch-up >5 years for healthy kids.
See Handbook Table 2.1.9 & 2.1.11 for PCV catch-up schedule. Recommended interval between doses is 4 weeks if aged <12 months and 8 weeks if ≥12 months.

* All children born after 1 October 2014 are required to have had an 18 month booster dose of DTaP vaccine.
* Some children may have received 4 doses of DTaP by 18 months of age, especially if they arrived overseas. These children will require a 5th dose of DTaP after 4 years of age.
* A booster dose of IPV is recommended at 4 years of age. If the 6th dose was given before 3.5 years of age, it should be repeated. If 3rd dose of IPV is given after 4 years of age, a 4th dose is not required.
* Acceptable alternate overseas schedule: Monovalent Hep B vaccine at birth, 1-2 months and 6-18 months of age if given overseas.
* Minimum interval between dose 1 and 3, is 4 months. Minimum interval between dose 2 and 3 is 2 months (however, the optimum schedule is 0, 1 & 6 months). The minimum age for dose 3 is 24 weeks.
* MMIV is not recommended for use as the 3rd dose of MMR containing vaccine in children aged <4 yrs. ANY live vaccines can be given on the same day, If not there must be a minimum interval of 4 weeks.

7 Required doses vary depending on age at presentation and age when vaccine received; therefore tables must be referred to for each new catch-up.

Updated September 2018
# Catch up vaccination schedule for

## Name and Age

### Immunisation History

<table>
<thead>
<tr>
<th>Catch up visit 1</th>
<th>Disease(s) covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 2</th>
<th>Disease(s) covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 3</th>
<th>Disease(s) covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Catch up visit 4</th>
<th>Disease(s) covered</th>
<th>Vaccine brand name</th>
<th>Dose No.</th>
<th>Alternative/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

This schedule does not take into account any medical risk factor that may require additional vaccines or doses.


Prepared by: [Name]

Illawarra Shoalhaven Local Health District

NSW Government
More common in children however:
- Some adolescents / adults missed doses in childhood
- Unvaccinated by parental choice - own choice to be vaccinated
- Requirements for employment
- Travel

Same principles apply - no need to restart courses, build on what has already been given

Different vaccines
- DTPa vs dTpa
- MMRV vs MMR + VZV
Health

Health issues such as premature birth, asthma, diabetes, heart, lung, spleen or kidney conditions, will mean you can benefit from immunisation.

Age

At different ages you need protection from different diseases.

Lifestyle

Lifestyle choices like travelling overseas, sexual activity or smoking, will mean you can benefit from immunisation.

Everyone’s HALO is different

What vaccines you need depends on your Health, Age, Lifestyle and Occupation.

Occupation

Some jobs expose you to a greater risk of contact with diseases, for example, working in a hospital or daycare centre. This means you can benefit from immunisation.
National Immunisation Program: Free catch-up vaccines for all individuals aged 10 to 19 years (ongoing)

VACCINATION PROVIDER FACT SHEET

- From 1 July 2017 all individuals (including refugees and humanitarian entrants) 10 to 19 years of age are eligible for free catch-up vaccines through the National Immunisation Program (NIP).
- The expansion will enable free access to a nationally consistent catch-up schedule for recommended early childhood vaccines.
**Funded Vaccines**

The following vaccines are funded for the eligible cohort on an ongoing basis under the expanded NIP. This cohort should also be closely evaluated regarding the potential need for other vaccines based on risk factors (e.g. influenza vaccine).

Table 1. Funded vaccine arrangements under this measure. The following table and footnotes are adapted from the *Australian Immunisation Handbook*, 10th edition, updated 2017 online.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Doses required*</th>
<th>Minimum interval between dose 1 and 2</th>
<th>Minimum interval between dose 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, tetanus and pertussis</td>
<td>3 doses†</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td>3 doses</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Measles, mumps and rubella</td>
<td>2 doses</td>
<td>4 weeks</td>
<td>Not required</td>
</tr>
<tr>
<td>Hepatitis B - Aged 10–19 years^</td>
<td>3 paediatric doses</td>
<td>1 month</td>
<td>3 months$</td>
</tr>
<tr>
<td>Hepatitis B - Aged 11–15 years only^</td>
<td>2 adult doses</td>
<td>4 month</td>
<td>Not required</td>
</tr>
<tr>
<td>MenCCV</td>
<td>1 dose</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>Varicella***</td>
<td>At least 1 dose if aged &lt;14 years</td>
<td>If 2nd dose given, a 4-week interval is required#</td>
<td>Not required</td>
</tr>
<tr>
<td></td>
<td>2 doses if aged ≥14 years</td>
<td>4 weeks</td>
<td>Not required</td>
</tr>
<tr>
<td>Human papillomavirus</td>
<td>3 doses</td>
<td>4 weeks</td>
<td>12 weeks</td>
</tr>
</tbody>
</table>

Please take note of the footnotes!!!
National Immunisation Program: **Free catch-up vaccines for refugees and other humanitarian entrants aged 20 years and over (ongoing)**

**VACCINATION PROVIDER FACT SHEET**

- From 1 July 2017 refugees and other humanitarian entrants are eligible for free catch-up vaccines on an ongoing basis through the National Immunisation Program (NIP).
- Providing a nationally consistent catch-up schedule enables newly arrived refugees and other humanitarian entrants free access to recommended vaccines.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Doses required*</th>
<th>Minimum interval between dose 1 and 2</th>
<th>Minimum interval between dose 2 and 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphtheria, tetanus and pertussis</td>
<td>3 doses*</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Poliomyelitis</td>
<td>3 doses</td>
<td>4 weeks</td>
<td>4 weeks</td>
</tr>
<tr>
<td>Measles, mumps and rubella</td>
<td>2 doses</td>
<td>4 weeks</td>
<td>Not required</td>
</tr>
<tr>
<td>Hepatitis B - Aged ≥20 years</td>
<td>3 adult doses</td>
<td>1 month</td>
<td>3 months$</td>
</tr>
<tr>
<td>Varicella#**</td>
<td>2 doses if aged ≥14 years</td>
<td>4 weeks</td>
<td>Not required</td>
</tr>
</tbody>
</table>

* This column outlines the number of vaccine doses required for a person who has not previously received any vaccine doses for that antigen. To determine how many further doses are required for a person who has received previous vaccine doses, the number of previous doses should generally be deducted from the number in this column.

\* If a person ≥10 years of age has not received the number of pertussis vaccine doses recommended prior to 10 years of age, they only require 1 dose to be considered up-to-date (irrespective of the number of previous doses of pertussis-containing vaccine they received prior to 10 years of age). A single booster dose of pertussis-containing vaccine is routinely recommended for all adolescents, optimally delivered between 11 and 13 years of age (refer to 4.12 Pertussis). Given that dT is not funded under the NIP, up to 3 doses of dTpa may be used.

\* Note the age groups overlap and this is an either/or, not both.

\$ For hepatitis B vaccine, the minimum interval between dose 1 and dose 3 is 4 months (refer to 4.5 Hepatitis B).

# Varicella vaccine is recommended for all non-immune persons. Children who have an uncertain clinical history or no documentation of age-appropriate varicella vaccination should be considered susceptible and offered vaccination unless confident clinical diagnosis of prior natural infection is made. All persons aged ≥14 years should receive 2 doses (refer also to 4.22 Varicella).

** While MMRV is suitable to provide varicella vaccination in children aged <14 years, this vaccine is not recommended for use in persons ≥14 years of age (refer also to 4.22 Varicella).
# Table. Catch-up schedule for people ≥10 years of age (for vaccines recommended on a population level)

<table>
<thead>
<tr>
<th>Antigen</th>
<th>Doses needed</th>
<th>Minimum interval between doses</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Diphtheria and tetanus     | 3 doses      | • Between doses 1 and 2: 4 weeks   
                           |              | • Between doses 2 and 3: 4 weeks
                           |              | • People should receive 1 of the doses as dTpa-containing vaccine and complete the course with dT. This dose would also provide the catch-up dose for pertussis.  
                           |              | • If dT is not available, use dTpa or dTpa-IPV for all 3 primary doses.                                                                                     |
| Pertussis                  | 1 dose       | • Not required                   | • People ≥10 years of age who did not receive all the pertussis vaccine doses recommended before the age of 10 years only need 1 dose to be considered up to date. This is regardless of the number of previous doses they received before the age of 10 years.  
                           |              | • A booster dose of pertussis-containing vaccine is routinely recommended for all adolescents aged 11–13 years. Take this into account when planning catch-up for pertussis.                                                   |
Resources for other scenarios

- Bone marrow transplant
- Splenectomy
- Preterm infants
- Post immunoglobulin
- Post chemo
- Travel
- Occupation
What are the current recommendations?

1. Education of patient
   a. to recognise an ensuing bacterial infection and the importance of seeking medical review
   b. to know what strategies are available to reduce the occurrence of severe infections
2. Immunisations against specific bacterial infections
3. Antibiotics as directed by your doctor

See [here](https://spleen.org.au) for medical recommendations for adults

See [here](https://spleen.org.au) for medical recommendations for children
Vaccines recommended for adults (>18 years) with asplenia/hyposplenism who **have not previously been vaccinated** **September 2017**

Give 1st dose 7 – 14 days prior to elective splenectomy or at least 7 days after emergency splenectomy.

Verbal consent should be obtained prior to administration of vaccines.

### Organism prevented

- **Pneumococcus**
  - Conjugate @ (Prevenar 13) 0.5mL IM
  - 8 weeks
  - Polysaccharide (Pneumovax 23) 0.5mL IM/SC
  - 5 years later
  - Polysaccharide # (Pneumovax 23) 0.5mL IM/SC

- **Meningococcus**
  - Conjugate ACWY
    - (Mencef, Mencric, Nimenrix) 0.5mL IM
    - 8 weeks
  - Conjugate ACWY
    - (Mencef, Mencric, Nimenrix) 0.5mL IM
    - 5 years later
  - Conjugate ACWYØ (Mencef, Mencric, Nimenrix) 0.5mL IM
  - No boosters required

- **Haemophilus influenzae type b**
  - Conjugate Hib
    - (Liquid Pedia Hib, Hiberix) 0.5mL IM
    - 8 weeks
  - No boosters required

### Primary vaccinations

- **Influenza**
  - Quadrivalent influenza vaccine
  - Each year (April/May)
  - Quadrivalent vaccine

### Revaccinations

- **Meningococcus**
  - Recombinant B
    - (Bexsero) 0.5mL IM
    - 8 weeks

### Vaccine Abbreviations

<table>
<thead>
<tr>
<th>Vaccine Brand name</th>
<th>Type of vaccine</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synflorrix</td>
<td>10-valent pneumococcal conjugate vaccine</td>
<td>10vPCV</td>
</tr>
<tr>
<td>Prevenar 7 or 13</td>
<td>7- or 13-valent pneumococcal conjugate vaccine</td>
<td>7vPCV or 13vPCV</td>
</tr>
<tr>
<td>Pneumovax 23</td>
<td>23-valent pneumococcal polysaccharide vaccine</td>
<td>23vPCV</td>
</tr>
<tr>
<td>Mencef or Mencric or Nimenrix</td>
<td>Meningococcal C conjugate vaccine</td>
<td>MenCv</td>
</tr>
<tr>
<td>Menrix or Menmune</td>
<td>(Polysaccharide ACWY + Quadrivalent meningococcal polysaccharide vaccine</td>
<td>4vMenPCV</td>
</tr>
<tr>
<td>Bexsero</td>
<td>Meningococcal B conjugate vaccine</td>
<td>MenBv</td>
</tr>
</tbody>
</table>
This table is for patients who have had one or more previous “spleen vaccines”

Give 1st dose 7 - 14 days prior to elective splenectomy or at least 7 days after emergency splenectomy. Verbal consent should be obtained prior to administration of vaccines.

**Pneumococcus**

<table>
<thead>
<tr>
<th>Vaccine(s) that was previously administered</th>
<th>Follow up vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide (Pneumovax 23) &gt; 1 year ago</td>
<td>Conjugate @ (Prevenar 13) 5 years from previous 23vPPV #</td>
</tr>
<tr>
<td>Conjugate (7 or 10 valent) (Prevenar 7, Synflorix) &gt; 3 weeks ago</td>
<td>Conjugate @ (Prevenar 13) 8 weeks later</td>
</tr>
<tr>
<td></td>
<td>Polysaccharide (Pneumovax 23) 5 years later</td>
</tr>
</tbody>
</table>

**Meningococcus**

<table>
<thead>
<tr>
<th>Vaccine(s) that was previously administered</th>
<th>Follow up vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysaccharide ACWY (Menveo, Menomune) &gt; 2 years ago</td>
<td>Conjugate ACWY (Menveo, Menomune) 8 weeks later</td>
</tr>
<tr>
<td>Conjugate ACWY (Menveo, Menomune)</td>
<td>Conjugate ACWY (Menveo, Menomune) 8 weeks later</td>
</tr>
<tr>
<td></td>
<td>Conjugate ACWY (Menveo, Menomactra, Nimenix)</td>
</tr>
<tr>
<td></td>
<td>Multicomponent B+ (Bexsero) &gt; 8 weeks</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Haemophilus influenzae type b**

<table>
<thead>
<tr>
<th>Vaccine(s) that was previously administered</th>
<th>Follow up vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hib (LiquiPedvaxHIB, Hberix)</td>
<td>No revaccination required</td>
</tr>
</tbody>
</table>

**Influenza**

<table>
<thead>
<tr>
<th>Vaccine(s) that was previously administered</th>
<th>Follow up vaccines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadrivalent influenza vaccine</td>
<td>Annually prior to influenza season</td>
</tr>
</tbody>
</table>

@, #, @, + please see refer to page 3.
What is the cold chain?

What you already know...

What is a data logger?

What does the data look like?

When it’s not a Cold Chain Breach (CCB)

What is a CCB?

How do I manage a cold chain breach?

Where can I get more information?
What is the 'cold chain'? 

- Referring to the ideal temperature range of +2°C and +8°C for vaccines
- Have you completed the module? Vaccine Storage and Cold Chain Management
- This is HIGHLY recommended for ALL staff who deal with vaccines (including those who receive the vaccines from the delivery person!)
- National Vaccine Storage Guidelines: Strive for 5 2nd ed. (currently in the process of being updated - next ed. will be released next year)
What you already know...

- Vaccines MUST be stored in a purpose-built refrigerator
- More than one person needs to be aware of cold chain management (but nominate a Vaccine Storage/Cold Chain leader)
- Temperatures must be checked, recorded and reset twice a day
  - Every day the facility is open
  - This ensures that any breaches are picked up in a timely fashion
- Graph the current, minimum, maximum temperatures on a temperature chart
What you already know...

- Have policies & procedures for vaccine storage

**KNOW YOUR FRIDGE**

- Different brands of fridges have different methods of checking and resetting their thermometers
- Some have 2 temperature screens, others have an inbuilt data logger
- Read the fridge manual (most can be downloaded from the internet)
- Accidental breaches can occur if you push the wrong button!!
What is a data logger?

- Data loggers are small memory cards that measure temperatures at pre-set time intervals and record the results over a specified period of time.
- Different shapes and sizes but all must be connected to a computer program to download.
- Then able to view the data as well as detailed setting capability.
  - Once downloaded, can view data and adjust settings.
  - Some data can be read over the internet.
What is a data logger?

- They should be set to record the temperature of the fridge every 10 minutes.
- Download needs to be performed weekly and data reviewed.
- Download if CCB suspected or odd min/max readings, or in the case of any uncertainty - it’s OK to download more often and report sooner than wait for the end of the week!

Remember...
Set at 5-10 mins intervals then download & save weekly!
All fridges that have vaccines stored in them MUST be monitored by a data logger.
What do they look like?
Stable data

- Example of stable fridge temps →
  - Between +2°C and +8°C
- Data is presented in a graph (below) and line listing (right) which shows the individual readings
- They have a storage limit (i.e. they cannot record forever without being downloaded and reset)
Unstable data

- Example of unstable fridge temps
  - Fluctuating from -0.1°C to +11.3°C
- ? Fridge malfunction
When it’s NOT a Cold Chain Breach (CCB)

- Fluctuations up to +12°C for <15 mins (such as when restocking) are acceptable and do not affect vaccines
- Data loggers can help save vaccines by providing the frequent temperatures than can exclude a CCB (and therefore does not need reporting!)
- Vaccines can be very expensive

Remember...

Up to +12°C for 15mins is OK
More than that, or less than +2°C... call PHU straight-away!
What IS a CCB?

- +/-2°C can “freeze” the vaccines (they may not look frozen) and temperatures over +8°C for >15 mins can be just as damaging.

- Action **MUST** be taken immediately if you suspect or discover that the temperatures have been out of range in order to avoid patients being given an ineffective vaccine.

- New thermostability data available since 2017 - used by PHU.

- Report temperature breaches to the Public Health Unit and wait for advice before discarding vaccines.
Reasons for Cold Chain Failures

- Refrigerator malfunction - ensure your fridge is serviced annually
- Power outage (planned or unplanned)
- Human error
  - Fridge door left ajar - chock front feet up to ensure door falls and stays closed
  - Fridge door held open too long - label baskets clearly or have a 'vaccine placement map' on the door
  - Pushing the wrong button and turning off the fridge by accident
  - Leaving vaccines out on delivery
  - Not closing door frequently during stock rotation to keep fridge temp stable
- Unknown
Breach or no breach???

Scenario 1
- Fridge accidentally turned off
- Max temp on data logger +15°C for 12mins
- BREACH!! Report to PHU...

Scenario 2
- Power failure for 40 mins
- Vaccines moved from fridge to monitored portable fridge
- Data logger showed +9°C for 10mins
- No breach
Breach or no breach???

Scenario 3
- Mechanical issue
- Max temp on data logger +9.5°C for 10mins on 3 separate occasions
- No breach

Scenario 4
- Fridge door left ajar overnight
- Top temp on data logger +11°C for 8 hours
- BREACH!! Report to PHU...
Human errors - *avoidable*
- Fridge turned off accidentally \( \times 2 \)
- Door left ajar \( \times 9 \)
- Vaccines placed in unmonitored fridge \( \times 2 \)
- Vaccines left out overnight after delivery \( \times 1 \)

Total cost to June '18 = $74,760
- Human errors = $9,724
What to do if you suspect a CCB?

- Deal with the vaccines first
  - Isolate in fridge if temperature has stabilised i.e. power restored
  - Move to a monitored esky

- Place a sign on the fridge ‘Do not use’

- Download the data from your data-logger (if using) and print or save it for the period of the breach

- Identify suspected or confirmed reason for the breach
What to do if you suspect a CCB?

- Contact PHU on 4221 6700 or 1300 066 055 as soon as possible (in business hours)

- The PHU will provide advice on what to do with the vaccines - **DO NOT** discard any vaccines until you have been advised to

  *Contact the vaccine manufacturer for advice about private vaccines*
### Section 1 - Practice Details
- Complete missing fields on fax or electronic copy

<table>
<thead>
<tr>
<th><strong>SECTION 1: IMMUNISATION PROVIDER DETAILS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>*Facility Name</td>
</tr>
<tr>
<td>*Address</td>
</tr>
<tr>
<td>*Number of GPs in the practice</td>
</tr>
</tbody>
</table>

### Section 2 - Event Details
- Practice to complete

<table>
<thead>
<tr>
<th><strong>SECTION 2: DETAILS OF COLD CHAIN BREACH (CCB)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Type of refrigerator</em></td>
</tr>
<tr>
<td>□ Vaccine Specific refrigerator</td>
</tr>
<tr>
<td>□ Domestic refrigerator</td>
</tr>
<tr>
<td>2. *Date of Breach</td>
</tr>
<tr>
<td>3. *Date CCB identified</td>
</tr>
<tr>
<td>4. <em>Select the reason for the CCB</em></td>
</tr>
<tr>
<td>□ Refrigerator malfunction † (Section 3.1 must also be completed and a current fridge service report provided)</td>
</tr>
<tr>
<td>□ Power outage (planned/unplanned) †</td>
</tr>
<tr>
<td>□ Human error †</td>
</tr>
<tr>
<td>□ Unknown (Section 3 MUST be completed)</td>
</tr>
<tr>
<td>5. <em>Additional information about the CCB</em></td>
</tr>
<tr>
<td>6. <em>Data logger temperature</em></td>
</tr>
<tr>
<td>7. <em>Duration outside 2° C to 8° C (minutes)</em></td>
</tr>
<tr>
<td>8. <em>Is this the first CCB for these vaccines?</em></td>
</tr>
<tr>
<td>□ No, what is the date of the previous CCB?</td>
</tr>
</tbody>
</table>
**Section 3: Fridge and Cold Chain Monitoring Details**

<table>
<thead>
<tr>
<th>3.1 Refrigerator details</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Date of refrigerator purchase</td>
</tr>
<tr>
<td>*Date of last refrigerator service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.2 Data logger details</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Type of data logger</td>
</tr>
<tr>
<td>*Date of purchase</td>
</tr>
<tr>
<td>*Date of last service</td>
</tr>
<tr>
<td>*Date of last calibration</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.3 Minimum/maximum thermometer details</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Type of min/max thermometer</td>
</tr>
<tr>
<td>*Date of purchase</td>
</tr>
<tr>
<td>*Date of last battery change</td>
</tr>
<tr>
<td>*Date of last accuracy check i.e. ice slurry</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3.4 Alternative vaccine storage details</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Is there an alternative fridge for vaccine storage?</td>
</tr>
<tr>
<td>□ Yes □ No</td>
</tr>
<tr>
<td>*Type of alternative fridge used for back up vaccine storage</td>
</tr>
<tr>
<td>□ Vaccine specific refrigerator □ Domestic refrigerator</td>
</tr>
</tbody>
</table>

- The PHU may disable your ability to order vaccines until a stable cold chain is able to be demonstrated.

- **Section 3**

- Only complete if cause of CCB is:
  - Fridge malfunction, or
  - Unknown

- Perform audits on the vaccine fridge annually (or more frequently if indicated)
What else do we need?

- **Section 4**
- **Count of the vaccines in stock**
  - How many doses of govt provided only
- **Data logging**
  - Graph and line listing of temps required
- **Min/max temperature chart/s**
- **Last fridge service report**
  - If available and only if there has been a fridge malfunction

---

**SECTION 4: VACCINE DETAILS**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>*Count</th>
<th>PHU advice</th>
<th>Vaccine</th>
<th>*Count</th>
<th>PHU advice</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMRRII</td>
<td>10 (5)</td>
<td>Discard 5</td>
<td>Infanrix</td>
<td>15 (2)</td>
<td>Retain &amp; label</td>
</tr>
</tbody>
</table>

**Vaccines exposed to a second breach should be recorded as follows:**

*Total count (# doses exposed to second breach), example:*

- Adacel
- Adacel polio
- Afluria Quad
- Boostrix
- Boostrix IPV
- *Energix* (adult)
- *Energix* (paed)
- Infanrix - Hexa
- Infanrix IPV

**Additional advice**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>*Batch #</th>
<th>*Expiry</th>
<th>*Count</th>
<th>HPNSW/PHU only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act-HIB</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quadracel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tripacel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Where I can I get more information?

- National Vaccine Storage Guidelines: Strive for 5
- Illawarra Shoalhaven PHU Immunisation Team
- NSW Health Website:
  - Immunisation Programs / Immunisation Providers / More Information / Cold Chain
- Cold chain training module for all providers
Immunisation programs

**Alerts**
- NEW - Vaccination by pharmacists
- NSW Immunisation Schedule (1 July 2018)
- 2018 Influenza Vaccination, including for children under 5
- Childcare vaccination requirements from 1 January 2018
- Meninococal W Vaccination Program

**Immunisation providers**
- More information
- Public Health Units 1300 065 055
- Adverse events following immunisation
- Shortage of adult hepatitis B vaccine
- Vaccine ordering link
- Cold chain training module for all providers
- Additional Commonwealth and NSW funded free vaccines

**Immunisation Campaigns**
- Save the Date to Vaccinate campaign and phone app
- Reorder Order Form
- Resources and Posters
- Get the facts - Immunisation Saves Lives (Commonwealth)

**Aboriginal immunisation**
- Aboriginal Immunisation Health Care Worker Program
- MJA article - Closing the vaccination coverage gap
- Stage 2 Evaluation Report
- Stage 1 Evaluation Report
- Annualised coverage rates
- Whatchya Gunna Do? video
More puzzle pieces...
Your PHN Immunisation Support community

Welcome to the PHN Immunisation Support Program website. We aim to create a community of practice by providing the latest news, useful resources and enabling shared knowledge between PHNs and other key stakeholders.

- About the program

Latest news

- Best Practice Software - advice regarding immunisation schedule changes - 1 July 2018
- Updated NCIRS fact sheets and immunisation schedule tables
- ZedMed practice software upgrade incorporating changes to the immunisation schedule - July 2018

Latest resources

- Northern Territory - catch up vaccines for all ages and additional vaccines due to increased medical risk (additional notes) - July 2018
- Northern Territory pneumococcal vaccination and revaccination schedule - July 2018
- Northern Territory adult and special groups vaccination schedule - July 2018

DIRECTORY

- PHN contacts
- Key stakeholders
- Program team
Resource & education library

Find resources that you can use in your day-to-day work.
Do you have material you’d like to share here?

Enter keyword/s

Apply filters

Sort by
Latest
Most viewed
Most downloaded

Topic

- All
- Aboriginal & Torres Strait Islanders
- AIR & other registers
- Clinical information
- Cold chain
- Education

21 June 2018 | PDF
Maintenance of digital min/max thermometers and slurry test instructions

21 June 2018 | Video
Vaccine and cold chain management webinar

19 June 2018 | Video
HETI: Vaccine storage and cold chain management module
AIR education modules

Downloadable files

AIR Education Modules

Uploaded: 3 July 2018
Created by: Department of Human Services

The AIR education package are now available. There are 5 modules available:

- Registering and requesting access to the AIR site
- Accessing the AIR for the first time
- Submitting information to the AIR
- Overseas immunisations
- Immunisation medical exemptions

The modules include information for:

- Medical practitioners with a Medicare provider number
The next NCIRS seminar/webinar will provide an update on the Australian Immunisation Register (AIR) and The Australian Immunisation Handbook.

**Time:** Wednesday 21 November 2018, 1.00 pm – 2.00 pm  
**Location:** Kids Research Seminar Room, 178 Hawkesbury Road, Westmead, NSW  

The session will also available via Zoom webinar. **Webinar registrations are limited to 500 places. Hurry places filling fast.**

[More information & register here...](#)
SKAI – Sharing Knowledge About Immunisation: Resources for parents

A series of five Q&A fact sheets addressing the five concerns most commonly expressed by Australian parents are available from the Immunise Australia website.

- How are vaccines shown to be safe?
- How do vaccines affect immunity?
- Why is the schedule the way it is?
- What about autism?
- What is in vaccines?
Why is the schedule the way it is?

Vaccines are timed to protect children

Why do children receive so many vaccines in the first two years?

The timing of each dose of every vaccine given to babies and children is carefully chosen. It takes many years of careful research to work out the right time to give each vaccine.

Independent experts gather information to help them make their recommendations. They consider which diseases Australian children are likely to be exposed to; how serious the diseases can be; children at different ages; which vaccines are safest and most effective; how many doses are needed to provide full protection; and the age at which the vaccines will give the best protection.

What happens if I delay or leave out certain vaccines?

Delaying vaccination is not recommended. When vaccination is delayed or spoked out, children are unprotected for longer than they need to be and often at an age when diseases are most common or most serious. Spacing out vaccines means that a child will need to have more vaccination appointments.

Researchers have found that visiting the doctor for one needle is just as stressful for children as visiting the doctor for two needles at once.
GET THE FACTS

Immunisation saves lives.

National Immunisation Program info line 1800 671 811

Home The facts Why immunise my child? How do I immunise my child? Resources
Get the facts – help protect your community

By getting your child vaccinated, you’re not only protecting them, you’re also protecting other children too. Make sure you vaccinate your child on time.

Are vaccines safe?

All vaccines in Australia are strictly tested to make sure they are both safe and effective.

Get the facts about vaccine safety

How do I know if my child's immunisations are up to date?

Check what your child needs

NSW Government
Illawarra Shoalhaven Local Health District
On time ✓ vaccination
Give your baby the best protection

Immunisation protects the community against vaccine-preventable diseases.

Each vaccine plays an important role, so timely vaccination is the best way to protect your child. This website offers parents access to

DOWNLOAD THE APP

[Apple App Store]

[Google Play]

[Windows Store]
# NSW Immunisation Resource Order Form

Please complete this order form and send it to the Better Health Centre:

Email: bhc@nccahs.health.nsw.gov.au
Fax: 02 9987 5679

**NB:** There are no costs related to these resources.

<table>
<thead>
<tr>
<th>Item</th>
<th>Layout</th>
<th>Collateral title</th>
<th>SHEP</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portasix (whooping cough) resources</td>
<td>A3</td>
<td>Whooping cough is about</td>
<td>CHP 189033</td>
<td></td>
</tr>
<tr>
<td>Brochure (Genetic)</td>
<td>DL</td>
<td>Protection and vaccination from conception to birth</td>
<td>CHP 189021</td>
<td></td>
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<tr>
<td>All-Pad</td>
<td>A5</td>
<td>Did you know? (patient information sheet)</td>
<td>CHP 189025</td>
<td></td>
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<tr>
<td>Fridgeboxer 130mm</td>
<td>A2</td>
<td>Portasix vaccination brochure</td>
<td>CHP 189023</td>
<td></td>
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<tr>
<td>Poster (Aboriginal)</td>
<td>A3</td>
<td>Whooping cough is about (Aboriginal)</td>
<td>CHP 189020</td>
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<tr>
<td>Brochure (Aboriginal)</td>
<td>DL</td>
<td>Important vaccines for pregnancy (Aboriginal)</td>
<td>CHP 189029</td>
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<td>Poster (Whooping Cough)</td>
<td>A5</td>
<td>Whooping cough, identify, protect, prevent poster</td>
<td>CHP 189024</td>
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<tr>
<td>Brochure (Whooping Cough)</td>
<td>DL</td>
<td>Whooping cough, identify, protect, prevent brochure</td>
<td>CHP 189029</td>
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<tr>
<td>Influenza Vaccination in Pregnancy</td>
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<tr>
<td>Brochure</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (English)</td>
<td>CHP 140169</td>
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<tr>
<td>Influenza Vaccination in Pregnancy</td>
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<td></td>
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<tr>
<td>Brochure (Arabic)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Arabic)</td>
<td>CHP 140101</td>
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</tr>
<tr>
<td>Brochure (Chinese)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Chinese)</td>
<td>CHP 140155</td>
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<tr>
<td>Brochure (Dari)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Dari)</td>
<td>CHP 140107</td>
<td></td>
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<tr>
<td>Brochure (Korean)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Korean)</td>
<td>CHP 140104</td>
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<td>Brochure (Telari)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Telari)</td>
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<td>Brochure (Turkmen)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Turkmen)</td>
<td>CHP 140105</td>
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<tr>
<td>Brochure (Vietnamese)</td>
<td>DL</td>
<td>Influenza Vaccination in Pregnancy - Protect you and your baby from influenza (Vietnamese)</td>
<td>CHP 140192</td>
<td></td>
</tr>
</tbody>
</table>

Following vaccination—what to expect and what to do

All vaccinations may cause the following reactions:

- Minor Local Reactions: Inflammation, pain, tenderness, redness, warmth, itching, or swelling 1-5 days after injection
- Systemic Reactions: Fever, malaise, fatigue, headache, irritability

What to do at home:
- Keep child rested, if needed
- Monitor for signs of infection

When to seek medical advice:
- Contact your doctor for further advice
- If symptoms persist or worsen

How to report an adverse reaction:
- Report adverse reactions to your doctor or vaccine provider

Rare reactions requiring immediate medical attention:
- Anaphylaxis
- Seizures
- Breathing difficulties
- Persistent cough

Where can I get more information?
- Contact your state or territory health service
- Check the National Immunisation Program website

---

<table>
<thead>
<tr>
<th>Vaccine Group</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza vaccine (Fluzone)</td>
<td>2 years</td>
</tr>
<tr>
<td>Measles, mumps, rubella, varicella (MMR vaccine)</td>
<td>1 month</td>
</tr>
<tr>
<td>Diphtheria, tetanus, whooping cough (DTP vaccine)</td>
<td>2 years</td>
</tr>
<tr>
<td>Haemophilus b vaccine (Hib vaccine)</td>
<td>2 years</td>
</tr>
<tr>
<td>Meningococcal ACWY vaccine</td>
<td>2 years</td>
</tr>
<tr>
<td>HPV vaccine</td>
<td>4 years</td>
</tr>
</tbody>
</table>

Order this resource

Order ID: IT0250

You can order this resource by contacting National Mailing and Marketing:

- Email: health@nationalmailing.com.au
- Phone: 02 6269 1080

Quote the order ID number above, the quantity of the resource you wish to order and provide your delivery address.

---

NSW Government
Illawarra Shoalhaven Local Health District
Free, confidential counselling is available for residents of Tathra and the region affected by the bushfires.

FIND OUT MORE →

www.coordinare.org.au
GP Nurses Southern NSW – GPNSN
Closed Group · 274 Members

Write something...

Announcements

Ros Lyn
Admin • Sun at 17:00 • 🔄

ISPRN Annual Showcase & Workshop 👍
A great forum to hear about PHC research without being bored 😊
Saturday 3 November, 9-12pm, News...
Available through Coordinare in Update forum
- PHU phone number: 4221 6700 or 1300 066 055
- haley.frew@health.nsw.gov.au or kathryn.tapper@health.nsw.gov.au
- natasa.veselinovic@health.nsw.gov.au (from 14/1/2019)
Thanks for Listening