Immunisation Best Practice

2017 Immunisation Workshop
Lisbeth Alley, IMAC Northern Regional Advisor
Trish Wells Morris IMAC educator
Immunisation progress!

- 1993 PHC report
- 1995 strategy
- 1999 NHC report
- 2003 National Immunisation strategy
- 2002 Priorities for action report
- 2007 National Health targets
- 2005 NIR
- 2010 Parliamentary Enquiry
- 2012 95% target set by the Better Public Services Programme
Equity gaps are closing!

Immunisation coverage for children at 8 months – as of December 2016

11% gap

2.5% gap

The Immunisation Advisory Centre
Why high immunisation coverage?

• Individual health and community protection
• To protect those who have not been vaccinated, either by choice, or for medical reasons
• Where possible to eradicate the disease e.g. smallpox, polio, measles, rubella
## 2017 Immunisation Target and Indicators

<table>
<thead>
<tr>
<th>Category</th>
<th>Target/Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 for Infants &amp; Young Children Fully Immunised</td>
<td>95% of 8 month olds (target), two year olds, and five year olds (goals or indicators)</td>
</tr>
<tr>
<td>Human Papillomavirus Vaccine</td>
<td>75% of girls born in 2004 are fully immunised for HPV (goal)</td>
</tr>
<tr>
<td>Influenza</td>
<td>75% of those aged 65 and over receive influenza vaccine (goal)</td>
</tr>
<tr>
<td>Duration</td>
<td>Percentage</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>6 months</td>
<td>80%</td>
</tr>
<tr>
<td>8 months</td>
<td>92% timeliness</td>
</tr>
<tr>
<td>12 months</td>
<td>94%</td>
</tr>
<tr>
<td>18 months</td>
<td>85%</td>
</tr>
<tr>
<td>24 months</td>
<td>93% coverage</td>
</tr>
<tr>
<td>5 years</td>
<td>89%</td>
</tr>
</tbody>
</table>
Immunisation equity June 2017

NIR 3 month datasets

<table>
<thead>
<tr>
<th>Group</th>
<th>8 months</th>
<th>24 months</th>
<th>5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>92</td>
<td>95</td>
<td>89</td>
</tr>
<tr>
<td>NZE</td>
<td>93</td>
<td>94</td>
<td>91</td>
</tr>
<tr>
<td>Maori</td>
<td>87</td>
<td>92</td>
<td>97</td>
</tr>
<tr>
<td>Pacific</td>
<td>87</td>
<td>89</td>
<td>91</td>
</tr>
<tr>
<td>Asian</td>
<td>91</td>
<td>87</td>
<td>91</td>
</tr>
<tr>
<td>Other</td>
<td>91</td>
<td>87</td>
<td>82</td>
</tr>
</tbody>
</table>

The Immunisation Advisory Centre
Provider immunisation culture

- Reception is welcoming and updates contact details
- Cold chain is well managed – failures prevented
- Primary care vaccinators are authorised, supported, educated & knowledgeable
- Internet, social media and text reminding are available and used
Provider immunisation culture

- Leadership using a team approach, collaboration with other providers and local resources
- Efficient interface of Practice Management System (PMS) with NIR
- Positive engagement with family/whānau from pregnancy/early post natal period
- Action plans improve vaccination literacy, reduce equity gaps & enable opportunities
Early newborn enrolment – on time

- **Accept** birth nomination message from NIR within three days
- Enrol under the **B code**
- Connect with family and send an appointment at 4 weeks of age for a 6-week immunisation event
- Update enrolment code by next quarter

**Pre-calls**

- Pre-call two weeks before due to ensure timeliness
- Reminder day before if appropriate? Txt/phone call

**Alerts**

- Identify children due or overdue for immunisation – add PMS alert
- PMS alerts highlight due/overdue immunisations
- Facilitate/promote opportunistic immunisation
Prompt referral to OIS for families experiencing barriers

- Provider notified via NIR
- Vaccination event completed
- 3 attempts to contact parent/caregiver or asap if no current contact. Use multiple methods as appropriate
- Refer promptly
- Referral sent to outreach provider
Value the NIR/PMS data

- PMS & NIR communicate with each other
- Know how to contact the local NIR administrator
- Each vaccinator needs an Authorised User agreement
- Notify NIR of staff and patient transfers in and out
- Fix errors promptly – ‘correct now’
- Do status query on each child to update the PMS
- Be cautious about decline and non responder codes
### New Zealand National Immunisation Schedule from 1 July 2017

<table>
<thead>
<tr>
<th>Age</th>
<th>RV</th>
<th>DTaP-IPV-HepB/Hib</th>
<th>PCV</th>
<th>Hib</th>
<th>VV</th>
<th>MMR</th>
<th>DTaP-IPV</th>
<th>Tdap</th>
<th>HPV</th>
<th>Td</th>
<th>Influenza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every pregnancy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Boostrix® between 28-38 weeks pregnancy</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Rotarix®</td>
<td>Infanrix®-hexa</td>
<td>Synflorix®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Influvec® any trimester</td>
</tr>
<tr>
<td>3 months</td>
<td>Rotarix®</td>
<td>Infanrix®-hexa</td>
<td>Synflorix®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 months</td>
<td>Infanrix®-hexa</td>
<td></td>
<td>Synflorix®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 months</td>
<td></td>
<td>Synflorix®</td>
<td>Hiberix®</td>
<td>Varilrix®</td>
<td>Priorix®</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 years</td>
<td></td>
<td>Priorix®</td>
<td>Infanrix®-IPV</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Priorix®</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12 years</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Boostrix®</td>
<td></td>
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</tr>
<tr>
<td>45 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gardasil® g two doses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 years</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ADT® Booster</td>
<td></td>
<td></td>
<td></td>
<td>Influvac®</td>
</tr>
</tbody>
</table>

**On time!**

**4 in a row!**

**By 4 years 1 month!**

**All up to date by age 14**

**Check boosters**

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**VACCINE KEY**

- DTaP-IPV-HepB/Hib: diphtheria, tetanus, acellular pertussis, polio, hepatitis B, *Haemophilus influenzae* type b
- PCV: pneumococcal conjugate vaccine
- RV: rotavirus
- Hib: *Haemophilus influenzae* type b
- VV: varicella (chickenpox) vaccine
- MMR: measles, mumps, rubella
- DTaP-IPV: diphtheria, tetanus, acellular pertussis, polio
- Tdap: tetanus, diphtheria, acellular pertussis
- HPV: human papillomavirus
- Td: tetanus, diphtheria

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[The Immunisation Advisory Centre](https://immune.org.nz)
14 year old immunisation check

• Has had:
  ➢ 11 year old Boostrix?
  ➢ 2- 3x HPV vaccines?
  ➢ 2x MMR vaccines?
  ➢ All other vaccines eligible for
  ➢ Eligible for additional special group vaccines?
20 special groups funded for vaccines

- Asplenia
- Post chemotherapy
- Cochlear Implant
- Error of metabolism - at risk of major metabolic decompensation
- Stem cell transplant
- **Hepatitis A & B** contact
- Hepatitis C positive
- Immune deficiency/ immune-suppression >28 days, pre, post, household contacts
- Influenza
- Kidney disease
- Liver disease
- Meningococcal disease
- Needle stick
- Non-consensual sexual intercourse
- **Pneumococcal increased risk**
- Pregnancy
- Rubella risk
- Solid organ transplant pre & post
- **Tuberculosis**

*Includes some newborns

IMAC factsheet: Funded vaccines for special groups July 2017
# Funded Vaccines for Special Groups from 1st July 2017

Please refer to individual vaccines on the following pages for detailed eligibility criteria and to the *Immunisation Handbook 2017* for vaccine administration schedules.

**Asplenia — Functional or Pre- or Post-Splenectomy Immunisation Programme**
- Hib, influenza, meningococcal, pneumococcal, and Tdap vaccines

**Chemotherapy — following**
- Hib, HPV, influenza, meningococcal, Tdap, and varicella vaccines
- Also consider immunosuppression for longer than 28 days
  - Hepatitis B and meningococcal vaccines

**Cochlear implant**
- Hib, influenza, and pneumococcal vaccines

**Error of metabolism at risk of major metabolic decompensation**
- Influenza and varicella vaccines

**Haematopoietic stem cell transplantation (HSCT) — following**
- Hib, HPV, influenza, meningococcal, pneumococcal, Tdap, and varicella vaccines
- Also consider immunosuppression for longer than 28 days
  - Hepatitis B vaccine

**Hepatitis A case — contact with**
- Hepatitis A vaccine

**Hepatitis B case — contact with**
- Infants born to mothers who are hepatitis B surface antigen (HBsAg) positive
  - Hepatitis B vaccine and hepatitis B immunoglobulin (HBIG) at birth
- Household and sexual contacts of known acute hepatitis B cases or carriers
  - Hepatitis B vaccine

**Hepatitis C positive individual**
- Hepatitis B vaccine

**HIV positive individual**
- Hepatitis B, HPV, influenza, meningococcal, pneumococcal, and varicella vaccines

**Immune deficiency/Immunosuppression**
- Individuals with an immune deficiency
  - Influenza, meningococcal, and pneumococcal vaccines
- Household contacts of children or adults who will be/are immunosuppressed
  - Varicella vaccine
- Prior to elective immunosuppression for longer than 28 days
  - Varicella vaccine
- Following immunosuppression for longer than 28 days
  - Hepatitis B, Hib, influenza, meningococcal, and Tdap vaccines

**Influenza Immunisation Programme**
- Pregnancy,
- Children aged 6 months to under 5 years who have been hospitalised for respiratory illness or have a history of significant respiratory illness,
- Individuals aged 6 months to under 65 years with an eligible medical condition,
- Individuals aged 65 years or older,
- Individuals aged under 18 years living in specified earthquake or flood affected areas in Bay of Plenty, Nelson Marlborough or Canterbury District Health Boards.
- Influenza vaccine

**Kidney disease**
- Hepatitis B, Hib, influenza, pneumococcal, Tdap, and varicella vaccines

**Liver disease**
- Hepatitis A and varicella vaccines

**Meningococcal disease case — contact with**
- Meningococcal vaccine

**Needle stick injury — following**
- Hepatitis B vaccine

**Non-consensual sexual intercourse — following**
- Hepatitis B vaccine

**Pneumococcal disease — increased risk**
- Additional pneumococcal vaccines

**Pregnancy**
- Influenza and Tdap vaccines in every pregnancy

**Rubella — women of childbearing age who are not immune to rubella**
- MMR vaccine

**Solid organ transplantation**
- Prior to solid organ transplantation
  - Hib, meningococcal, pneumococcal, Tdap, and varicella vaccines
- Following solid organ transplantation
  - Hepatitis A, hepatitis B, Hib, HPV, influenza, meningococcal, pneumococcal, and Tdap vaccines

**Tuberculosis — infants and children aged under 5 years at risk of tuberculosis (TB) exposure**
- BCG vaccine

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**Vaccine key** — BCG: tuberculosis; Hib: *Haemophilus influenzae* type b; HPV: human papillomavirus; MMR: measles, mumps, rubella; Tdap: tetanus, diphtheria, acellular pertussis; varicella: chickenpox.
Pregnant women

• Increased coverage needed!
• Do you receive IAN bloods/early scan results?
• Do you have a Pregnancy Register?
• Recall for:
  ➢ **Influenza vaccine** anytime during pregnancy.
  ➢ **Pertussis** containing vaccine 28-38 weeks *each* pregnancy.
  ➢ MMR after delivery if no record of receiving 2 doses

IAN = initial antenatal blood test
Informed consent and communication

- Welcome, be client centred, develop rapport and trust
- List every disease antigen for consent
- Discuss benefits & risks, allow time for questions
- Use resources/images to reinforce messages
- Check preferences for minimising discomfort
- Keep the conversation open

RECOMMEND immunisation!
If a choice is made to decline:

• Formal discussion required
• Written information is provided
• Document discussion, information and resources provided
• Inform caregivers:
  ➢ How to minimise risk of disease
  ➢ That calls will continue for subsequent immunisation events
  ➢ When there is a disease outbreak parents will be called
  ➢ Health professionals will continue to discuss immunisation
  ➢ Immunisations can be given in the future as a catch-up
Vaccine administration 7 “Rights”

- Right person
- Right vaccine and diluent (if applicable) *check the cold chain!*
- Right time (age, interval and vaccine expiration time/date)
- Right dosage
- Right route (including correct needle angle, length and technique)
- Right site
- Right documentation

Ref: Adapted from Immunisation Action Coalition
## Pre-vaccination screening - safety/optimum response

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unwell today</td>
<td>• <em>Significant</em> illness or fever reschedule</td>
</tr>
<tr>
<td>Serious reaction to this vaccine</td>
<td>• Contraindication</td>
</tr>
<tr>
<td>Anaphylaxis to a vaccine component</td>
<td>• Contraindication</td>
</tr>
<tr>
<td>Date of last dose</td>
<td>• Check interval</td>
</tr>
<tr>
<td>Apnoea last vaccination – preterm baby</td>
<td>• Consider vaccinate in secondary care</td>
</tr>
<tr>
<td>Undiagnosed neurological condition</td>
<td>• Avoid pertussis containing vaccine</td>
</tr>
</tbody>
</table>
### Pre-vaccination screening - safety/optimum response

<table>
<thead>
<tr>
<th>Category</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bleeding disorder – thrombocytopenia</td>
<td>Check recommended route &amp; precautions</td>
</tr>
<tr>
<td>Planning pregnancy</td>
<td>Up to date? Delay conception for live vaccines</td>
</tr>
<tr>
<td>Pregnant</td>
<td>Delay some vaccines till delivery</td>
</tr>
<tr>
<td>Blood products or Ig</td>
<td>Avoid live vaccines for interval</td>
</tr>
<tr>
<td>Live vaccine &lt;4 weeks</td>
<td>Delay for 4 week interval</td>
</tr>
</tbody>
</table>
## Pre-vaccination screening - safety/optimum response

<table>
<thead>
<tr>
<th>Condition</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steroid therapy</td>
<td>• Check if live vaccines OK</td>
</tr>
<tr>
<td>Immunosuppressive therapy (IT)</td>
<td>• Avoid live vaccines</td>
</tr>
<tr>
<td>Baby of mother on IT during pregnancy</td>
<td>• Check if live vaccines OK</td>
</tr>
<tr>
<td>Lowered immunity</td>
<td>• Check if live vaccines OK</td>
</tr>
<tr>
<td>Household contact of immune-suppressed person</td>
<td>• Develops post vaccine rash - avoid contact</td>
</tr>
</tbody>
</table>
Immunisation best practice recommendations

- Wash/sanitise hands (gloves not required)
- Clean non-touch technique
- Do not mix different vaccines
- Prepare vaccine after informed consent obtained
- Identify the correct site and needle length
- Multiple injections in different sites/muscles by one vaccinator
- Promote administration of all eligible vaccines at one visit
- Confident and calm

Ref: ACIP (2017) General Best Practice Guidelines for Immunisation
Use the correct route for safety and effectiveness

- Oral: Rotavirus
- Intramuscular: DTaP-IPV- Hep B/Hib, DTaP-IPV, Tdap, Td
  - PCV
  - Hib
  - HPV
- Subcutaneous: MMR
  - Varicella
  - IPOL
- Intradermal: BCG

See Immunisation Handbook Table 2.8
Anatomical identification of injection sites

- Lateral femoral condyle
- Injection site (junction of middle and upper thicks of the vastus lateralis)
- Greater trochanter
- Axilla line
<table>
<thead>
<tr>
<th>WHO key pain mitigation strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid syringe aspiration</td>
</tr>
<tr>
<td>Encourage breastfeeding during vaccination</td>
</tr>
<tr>
<td>Administer vaccines in order of <em>increasing</em> pain</td>
</tr>
<tr>
<td>Neutral verbal cues – calm explanations, avoid <em>excessive</em> reassurance &amp; anxiety promoting terms</td>
</tr>
</tbody>
</table>

# Other pain mitigation strategies

<table>
<thead>
<tr>
<th>Technique</th>
<th>Mitigation Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give rotavirus vaccine</td>
<td>• High sucrose</td>
</tr>
<tr>
<td></td>
<td>• 6 weeks &amp; 3 months</td>
</tr>
<tr>
<td>Young child</td>
<td>• Sit upright</td>
</tr>
<tr>
<td></td>
<td>• Hold comfortably</td>
</tr>
<tr>
<td></td>
<td>• Explain prior to visit</td>
</tr>
<tr>
<td>Abdominal breathing</td>
<td>• Anxious children and parents</td>
</tr>
<tr>
<td>Use distraction</td>
<td>• Toy or book</td>
</tr>
<tr>
<td></td>
<td>• Bubbles held by child</td>
</tr>
<tr>
<td></td>
<td>• Counting or talking</td>
</tr>
</tbody>
</table>

IMAC (2016) Mitigating vaccination pain and distress factsheet
Holding and positioning

- Baby cuddled – *avoid lying on their back*
- Infant on parent/caregivers knee
- Child sit upright, positioned side on, front on or straddled
- Secure hold - *avoid restraint* (as increases anxiety and risks injury)
- Clear instructions and encouragement for parent/caregiver
Post vaccination

**Verbal**
- Inform about expected responses
- After hours number

**Written**
- Who to contact for assistance
- Book next immunisation appointment

**Document on PMS & in WCTO Book**
- Vaccine batch & expiry
- Injection site & route
- Needle length and gauge
- Informed consent vaccination and NIR
- The vaccinee was well
- Known allergies
- Adverse event(s)
- That they waited 20 minutes
• Start with a presumptive recommendation
• Client centred conversational style vs lecture
• Be prepared to understand concerns
• Counter misinformation with evidence based facts & pro stories
• Some do change their mind
• Don't neglect acceptors, support their decision ↑ resilience
• Avoid repeating myths - refer to risk of disease and protection provided by vaccines
Communication to influence behaviour

Can be learned – be proactive
- Handbook, factsheets, best practice sites, social media

Use open ended questions
- What do you think about vaccines?

Use affirmations
- I understand . . .

Listen reflectively, communication is a 2 way process
- You are concerned by . . .

Knowledge is important but not enough . . .
- . . . to change behaviour
Tell compelling stories...........

NEW ZEALAND

'It was hideous' - family's tetanus agony

22 Dec, 2012 5:30am

Aljah Williams woke up with a sunken face. Within 36 hours, the 7 year-old Auckland boy was crippled by body spasms, unable to swallow and racked with pain.

“He was screaming in agony,” mother Linda Williams said.

Aljah had contracted tetanus, a potentially fatal disease which gets into the body through a wound and attacks the nervous system.

“It was hideous. He was spasming every three minutes. He was biting his tongue and bleeding. His arms were spasming and he was arching his back and his whole face and jaw was completely locked.”

A six-year-old Italian boy suffering from leukemia has died after complications from a bout of measles, and the death has reigned a hot debate about vaccinations in the country. He reportedly caught the measles from an older sibling that the parents had decided not to vaccinate, despite the fact that the leukemia had already compromised their younger son's immune system.

"Asking for freedom not to vaccinate your children is like asking for the freedom to travel on a highway at 300 km/h. It's dangerous not only for yourself"
He has a right to health and life. He has a right to be free of preventable diseases. Protect that right. Vaccinate him.
References:

6. MacDonald N (2017) Vaccine Hesitancy: Definition and Dimensions
7. WHO Sage Vaccine Hesitancy and Pain Mitigation recommendations