Immunisation Handbook

2017

(2nd edition, March 2018)

Disclaimer

This publication, which has been prepared for, and is published by, the Ministry of Health, is for the assistance of those involved in providing immunisation services in New Zealand.

While the information and advice included in this publication are believed to be correct, no liability is accepted for any incorrect statement or advice. No person proposing to administer a vaccine to any other person should rely on the advice given in this publication without first exercising his or her professional judgement as to the appropriateness of administering that vaccine to another person.

Feedback

Comments on this book and suggestions for future editions are invited, to enhance the usefulness of future editions. These should be sent to the Manager Immunisation, Ministry of Health, at the address below.

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Foreword

With the publication of the *Immunisation Handbook 2017* (the *Handbook*), it is once again appropriate to extend the Ministry of Health's thanks to everyone involved in supporting, promoting or delivering immunisations to the people of New Zealand. This *Handbook* has been designed as a comprehensive source of information on immunisation, to support you in the work you do.

Since the July 2014 edition of the *Handbook*, there have been two subsequent editions ie, the 2014 (2nd ed) and 2014 (3rd ed) released online. Both of these editions were updated with a few amendments and PHARMAC's revised eligibility criteria for some of the vaccines for individuals at increased risk of the relevant vaccine-preventable diseases.

On 1 January 2017, PHARMAC approved funding for human papillomavirus vaccine for boys and girls up to the age of 27 years, and these changes were included in the 2014 (3rd ed) online *Handbook* versions. From July 2017 varicella vaccine will be introduced to the National Immunisation Schedule and is expected to significantly reduce the burden of varicella disease, particularly in young infants.

Immunisation coverage has continued to improve and as at 31 December 2016, 93.3 percent of 8-month-olds and 93.1 percent of 2-year-olds were fully immunised for the quarter. Significant progress has been made for immunisation at age 5 years in recent years, with coverage increasing from 82 percent in June 2015 to 89 percent in December 2016. Gains have consistently been made for Māori infants and children, with an increase in coverage at age 8 months from 78 percent in 2012 to 91 percent in December 2016. In the Human Papillomavirus (HPV) Immunisation Programme, equity has continued to be achieved for young Māori and Pacific women, and 12 district health boards achieved or exceeded the 2016 HPV immunisation coverage target of 65 percent of 12-year-old girls having received all three HPV doses.

At a population level, the effects of increasing immunisation coverage are clearly discernible, with fewer cases of vaccine-preventable diseases as coverage increases. In New Zealand, we have seen significant decline

in hepatitis B, *Haemophilus influenzae* type b, genital warts and, in infants, pneumococcal and rotavirus diseases since the introduction of vaccines.

The health community deserves praise for this improvement, but at the same time must continue with its efforts to increase coverage toward the point where herd immunity against the most infectious diseases can be achieved.

I congratulate you on these past achievements and encourage your ongoing commitment to improving immunisation coverage and reducing vaccine-preventable diseases in New Zealand. Pharmacists can now assist with achieving this goal. Due to a reclassification of the influenza, meningococcal, Tdap and zoster vaccines, pharmacists who have undergone Ministry-approved vaccinator training can now administer these vaccines to adults. In 2017 pharmacists have also been able to provide funded influenza vaccinations to those aged 65 years and older and to pregnant women. This provides more opportunities for people to be vaccinated against these infectious diseases.

Immunisation is an important opportunity for health professionals to interact with people from all walks of life: mothers with newborns, school-age children, and adults either working or retired. Your attitude and the conversations you have with people affect their attitudes toward immunisation and their engagement with the health care system in general. We hope this *Handbook* will help your interactions with your patients and their families/whānau.

In closing, I would like to thank the members of the Handbook Advisory Group who updated the *Handbook* – and also all the peer reviewers. I trust this edition, like its predecessors, will prove a valuable resource for health professionals.

Chai Chuah
Director-General of Health and Chief Executive

The Immunisation Handbook Advisory Group

The Immunisation Handbook Advisory Group provided expert technical and medical advice for the *Immunisation Handbook 2017*. The Ministry of Health wishes to thank them for their time and commitment during the *Handbook* update and rewrite. The Handbook Advisory Group members are as follows.

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The Ministry would especially like to acknowledge the work of Vikki Cheer, the *Handbook* medical writer.

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Main source books

American Academy of Pediatrics. 2015. *Red Book: 2015 Report of the Committee on Infectious Diseases* (29th edition). Kimberlin DW, Brady MT, Jackson MA, et al (eds). Elk Grove Village, IL: American Academy of Pediatrics.

Department of Health and Ageing. 2017. *The Australian Immunisation Handbook* (10th edition, updated 2017). Canberra, ACT: Department of Health and Ageing.

Ministry of Health. 2012. *Communicable Disease Control Manual 2012*. Wellington: Ministry of Health.

Plotkin SA, Orenstein WA, Offit PA (eds). 2013. *Vaccines* (6th edition). Philadelphia, PA: Elsevier Saunders.

New Zealand epidemiology data

Information on New Zealand epidemiology is sourced from data collated by the Institute of Environmental Science and Research (ESR), on behalf of the Ministry of Health, or from Analytical Services, Ministry of Health.

For the most up-to-date epidemiological data, see the ESR Public Health Surveillance (www.surv.esr.cri.nz) and Ministry of Health (www.health.govt.nz/nz-health-statistics) websites.

Commonly used abbreviations

23PPV	23-valent pneumococcal polysaccharide vaccine
ADT	adult diphtheria and tetanus vaccine
AEFI	adverse event following immunisation
AFP	acute flaccid paralysis
AIDS	acquired immunodeficiency syndrome
AOM	acute otitis media
BCG	bacillus Calmette–Guérin vaccine
CARM	Centre for Adverse Reactions Monitoring
CPR	cardiopulmonary resuscitation
CRS	congenital rubella syndrome
DHB	district health board
DMARD	disease-modifying anti-rheumatic drug
DNA	deoxyribonucleic acid
DT	diphtheria and tetanus vaccine
DTaP	diphtheria, tetanus and acellular pertussis vaccine
DTaP-IPV	diphtheria, tetanus, acellular pertussis and inactivated polio vaccine
DTaP-IPV-HepB/Hib	diphtheria, tetanus, acellular pertussis, inactivated polio, hepatitis B and *Haemophilus influenzae* type b vaccine
DTwP	diphtheria, tetanus and whole-cell pertussis vaccine
DTwPH	diphtheria, tetanus, whole-cell pertussis and *Haemophilus influenzae* type b vaccine
ESR	Institute of Environmental Science and Research
GBS	Guillain–Barré syndrome
GP	general practitioner
GSK	GlaxoSmithKline (New Zealand) Limited
HAV	hepatitis A virus
HBcAg	hepatitis B core antigen
HBeAg	hepatitis B e antigen

HBIG	hepatitis B immunoglobulin
HBsAg	hepatitis B surface antigen
HBV	hepatitis B virus
HepB	hepatitis B vaccine
Hib	*Haemophilus influenzae* type b
HIV	human immunodeficiency virus
HPV	human papillomavirus
HSCT	haematopoietic stem cell transplant
HZ	herpes zoster
HZV	herpes zoster vaccine
ICD	International Classification of Diseases
IG	immunoglobulin
IgG	immunoglobulin G
IM	intramuscular
IMAC	Immunisation Advisory Centre
IPD	invasive pneumococcal disease
IPV	inactivated polio vaccine
ITP	idiopathic thrombocytopenic purpura (also known as immune thrombocytopenia)
IV	intravenous
IVIG	intravenous immunoglobulin
LAIV	live attenuated influenza vaccine
MCV4-D	quadrivalent meningococcal conjugate vaccine (conjugated to diphtheria toxoid)
Medsafe	New Zealand Medicines and Medical Devices Safety Authority
MenCCV	meningococcal C conjugate vaccine
MeNZB	meningococcal B vaccine
MMR	measles, mumps and rubella vaccine
MMRV	measles, mumps, rubella and varicella vaccine
MSD	Merck Sharp & Dohme (New Zealand) Limited
NHI	National Health Index

NIR	National Immunisation Register
NTHi	non-typeable *Haemophilus influenzae*
NZBS	New Zealand Blood Service
OPV	oral polio vaccine
PCR	polymerase chain reaction
PCV7	7-valent pneumococcal conjugate vaccine
PCV10	10-valent pneumococcal conjugate vaccine
PCV13	13-valent pneumococcal conjugate vaccine
PFU	plaque-forming unit
PHARMAC	Pharmaceutical Management Agency
PMS	practice management system (also known as patient management system)
PRP	polyribosylribitol phosphate
PSNZ	Pharmaceutical Society of New Zealand
PTAC	Pharmacology and Therapeutics Advisory Committee
QIV	quadrivalent inactivated vaccine
RIG	rabies immunoglobulin
RNA	ribonucleic acid
RV1	rotavirus vaccine (monovalent)
RV5	rotavirus vaccine (pentavalent)
SBVS	School-Based Vaccination System
SC	subcutaneous
SCID	severe combined immune deficiency
STI	sexually transmitted infection
SUDI	sudden unexpected death in infancy
TB	tuberculosis
Td	adult tetanus and diphtheria vaccine
Tdap	adult tetanus, diphtheria and acellular pertussis vaccine
TIG	tetanus immunoglobulin
TIV	trivalent inactivated vaccine
UK	United Kingdom
US	United States of America

VAPP	vaccine-associated paralytic poliomyelitis
VLP	virus-like particle
VTC	vaccinator training course
VV	varicella vaccine
VZV	varicella zoster virus
WHO	World Health Organization
ZIG	zoster immunoglobulin

Introduction

The purpose of the *Immunisation Handbook 2017* (the *Handbook*) is to provide clinical guidelines for health professionals on the safest and most effective use of vaccines in their practice. These guidelines are based on the best scientific evidence available at the time of publication, from published and unpublished literature.

> The information contained within the *Handbook* was correct at the time of publication. This edition of the *Handbook* will remain current unless amended electronically via the Ministry of Health website (www.health.govt.nz/our-work/preventative-health-wellness/immunisation) or until the next edition or update is published.

Changes to the *Handbook* in 2017

All chapters have been updated and revised since the 2014 edition. The following changes have been made.

- There is a new section at the end of each disease chapter called 'Variations from the vaccine data sheets'.
- The content from chapter 2 'Processes for safe immunisation' has been reformatted into pre-vaccination, vaccine administration and post-vaccination sections.
- The 'Passive immunisation' section of chapter 1 has been moved to its own appendix (Appendix 6).
- The 'Cold chain: vaccine storage, transport and destruction' appendix has been removed and its content is now included in the Ministry of Health document *National Standards for Vaccine Storage and Transportation for Immunisation Providers 2017* (available at www.health.govt.nz/coldchain).

- The 'Notifiable disease case definitions and laboratory tests' appendix (Appendix 8) has been removed. Health care providers should use the Ministry of Health's *Communicable Disease Control Manual 2012* (available at www.health.govt.nz/publication/communicable-disease-control-manual-2012) for case definition and laboratory test information.
- There is a new appendix, 'High-incidence TB countries' (Appendix 8), with a list of countries with tuberculosis (TB) rates of ≥40 per 100,000 population.

The National Immunisation Schedule

The National Immunisation Schedule (the Schedule) is the series of publicly funded vaccines available in New Zealand (see Table 1). Some vaccines are also offered as targeted programmes in response to a recognised need (see Table 2). See also section 2.1.7 for a summary of the primary immunisation requirements for adults (funded) and other funded and unfunded recommendations for this age group.

On 1 July 2012 the management and purchasing of vaccines transferred from the Ministry of Health to PHARMAC. All publicly funded vaccines are now listed on PHARMAC's Pharmaceutical Schedule (see www.pharmac.govt.nz), and the district health boards (DHBs) are responsible for funding these once PHARMAC has listed them.

PHARMAC considers medicine and vaccine funding applications from pharmaceutical suppliers, health professionals, consumer groups and patients. Usually, manufacturers/suppliers decide whether to make an application for funding. Normally this will follow registration and approval of the medicine or vaccine by Medsafe. PHARMAC will generally only consider an application for a medicine or vaccine to be funded once it has been registered and approved by Medsafe.

Following a vaccine funding application, PHARMAC will assess the vaccine, seek clinical input (for vaccines this may be from the immunisation subcommittee of the Pharmacology and Therapeutics Advisory Committee [PTAC] or from PTAC itself), and conduct an economic analysis. The recommendations from the immunisation subcommittee are then considered by PTAC, who will provide advice to PHARMAC. PHARMAC then decides what priority the application has for funding, and consults with the Ministry of Health on capacity and

implementation issues that may be associated with introducing a new vaccine. Depending on the outcome of that process, PHARMAC may then negotiate with the supplier. If an agreement is reached, PHARMAC will consult with the health sector on a funding proposal.

The Ministry of Health remains responsible for and manages the National Immunisation Programme. The National Immunisation Programme:

- aims to prevent disease through vaccination and to achieve coverage that prevents outbreaks and epidemics
- is accountable for achieving the Immunisation Health Target
- monitors disease burden and those at risk
- provides guidance to the sector on immunisation, cold chain and resources
- ensures immunisation providers deliver services that meet the needs of their population
- implements the National Immunisation Schedule
- delivers trusted and effective vaccine programmes
- provides immunisation resources, including the *Immunisation Handbook*
- improves information and data systems
- manages the National Immunisation Register (NIR).

The Ministry of Health works with PHARMAC to ensure there is a strong link between vaccine decisions, management and the National Immunisation Programme.

Although funding decisions will be communicated to the sector, vaccinators are advised to regularly check the Pharmaceutical Schedule and any online updates (www.pharmac.govt.nz) for changes to funding decisions, and the online edition of the *Immunisation Handbook* (www.health.govt.nz/our-work/preventative-health-wellness/immunisation) for the latest immunisation information.

Changes to the National Immunisation Schedule in 2018

Table 1 shows the 2018 National Immunisation Schedule, and Table 2 shows the vaccines funded for special groups at higher risk of some diseases.

Changes to vaccine funding in 2018 are as follows.

1. From 2018, the quadrivalent inactivated influenza vaccine (Influvac Tetra; see chapter 10 'Influenza') will be the Schedule vaccine for pregnant women and for adults aged 65 years and older.
2. From 1 April 2018, one dose of herpes zoster vaccine (HZV, Zostavax; see chapter 22 'Zoster') will be introduced for:
    - individuals at age 65 years, or
    - catch-up of individuals aged 66–80 years, inclusive (the catch-up programme ceases on 31 March 2020).

Table 1: National Immunisation Schedule, commencing 1 April 2018

Antigen(s)	DTaP-IPV-HepB/Hib	PCV10	RV1	MMR	Hib	VV	DTaP-IPV	Tdap	HPV9	Td	Influenza	HZV
Brand	Infanrix-hexa	Synflorix	Rotarix	Priorix	Hiberix	Varilrix	Infanrix-IPV	Boostrix	Gardasil9	ADT Booster	Influvac Tetra	Zostavax
Manufacturer	GSK	GSK	GSK	GSK	GSK	GSK	GSK	GSK	Seqirus/ MSD	Seqirus	Mylan	MSD
Pregnancy								●[a]			●	
6 weeks	●	●	●									
3 months	●	●	●									
5 months	●	●										
15 months		●		●	●	●[b]						
4 years				●			●					
11 or 12 years[c]								●	● 2 doses[c]			
45 years										●		
65 years										●	● annually	●[d]

a Tdap is for women during every pregnancy, from 16 weeks' gestation, preferably in the second trimester.

b VV is funded for children born on or after 1 April 2016.

c HPV is funded for individuals aged 26 years and under: 2 doses for those aged 14 years and under; 3 doses for those aged 15–26 years; 3 doses for those aged 9–26 years with certain medical conditions, plus an additional dose post-chemotherapy.

d There is a catch-up programme from 1 April 2018 until 31 March 2020, with 1 dose of HZV funded for individuals aged 66–80 years, inclusive.

2018 and 2019 changes to targeted programmes for special groups

Vaccines funded for special groups are described in Table 2 below. Changes to existing programmes in 2018 and 2019 are as follows.

1. Hepatitis B vaccine (HepB, HBvaxPRO; see chapter 8 'Hepatitis B') is funded for individuals with eligible conditions. However, in 2018 there is a shortage of the HBvaxPRO 5 μg and HBvaxPRO 10 μg vaccines. If the HBvaxPRO 5 μg or HBvaxPRO 10 μg vaccines are not available, the Engerix-B 20 μg vaccine may be used instead. (Supplies of the HBvaxPRO 40 μg vaccine are unaffected.)

2. Influenza vaccine is funded for individuals aged 6 months to under 65 years with eligible conditions (see chapter 10 'Influenza'). From 2018, the following quadrivalent inactivated influenza vaccines will be used:

    - Fluarix Tetra for children aged 6 months to under 3 years (ie, aged 6–35 months)
    - Influvac Tetra for adults and children aged 3 years and older.

3. In 2019 funding for pregnant women Tdap vaccine was extended. It is now recommended to be given from 16 weeks' gestation of every pregnancy, preferably in the second trimester, but at least two weeks before birth. (Funded when given any time in second or third trimester.)

4. A single dose of Tdap is funded for parents or primary caregivers of infants admitted to a Neonatal Intensive Care Unit or Specialist Care Baby Unit for more than 3 days, who had not been exposed to maternal vaccination at least 14 days prior to birth.

5. From 1 December 2019 a single dose of Meningococcal ACWY (MCV4-D) is funded for individuals aged between 13 and 25 years entering or in their first year of living in boarding school hostels, tertiary education halls of residence, military barracks, or prisons.

Table 2: Funded vaccines for special groups – in addition to the routine schedule

Note: Vaccinators are advised to regularly check the Pharmaceutical Schedule and any online updates (www.pharmac.govt.nz) for changes to funding decisions for special groups. See also chapter 4 'Immunisation of special groups'.

Vaccine	Individuals eligible for funded vaccine
Haemophilus influenzae type b (Hib) (chapter 6)	For (re-)vaccination of patients who are: • post-haematopoietic stem cell transplant (HSCT) or chemotherapy • pre- or post-splenectomy or with functional asplenia • pre- or post-solid organ transplant • pre- or post-cochlear implants • undergoing renal dialysis and other severely immunosuppressive regimens For use in testing for primary immune deficiency[a]
Hepatitis A (chapter 7)	Transplant patients Children with chronic liver disease Close contacts of hepatitis A cases
Hepatitis B (HepB) (chapter 8)	Household or sexual contacts of patients with acute or chronic hepatitis B virus (HBV) infection Babies of mothers with chronic HBV infection need both hepatitis B vaccine (HepB) and hepatitis B immunoglobulin (HBIG) at birth Children aged under 18 years who have not achieved positive serology and who require additional vaccination HIV-positive patients Hepatitis C-positive patients Following non-consensual sexual intercourse Patients following immunosuppression[b] Solid organ transplant patients Post-HSCT patients Following needle-stick injury Dialysis patients Liver or kidney transplant patients
Human papillomavirus (HPV) (chapter 9)	People aged 9 to 26 years inclusive: • with confirmed HIV infection • transplant (including stem cell) patients • post-chemotherapy

Continued overleaf

Vaccine	Individuals eligible for funded vaccine
Annual influenza vaccine (chapter 10)	Patients aged 6 months to <65 years who: • have any of the following cardiovascular diseases: – ischaemic heart disease – congestive heart failure – rheumatic heart disease – congenital heart disease – cerebrovascular disease • have either of the following chronic respiratory diseases: – asthma, if on a regular preventative therapy – other chronic respiratory disease with impaired lung function • have diabetes • have chronic renal disease • have any cancer, excluding basal and squamous skin cancers if not invasive • have any of the following other conditions: – autoimmune disease – immune suppression or immune deficiency – HIV – transplant recipients – neuromuscular and central nervous system diseases/disorders – haemoglobinopathies – are children on long-term aspirin – have a cochlear implant – errors of metabolism at risk of major metabolic decompensation – pre- and post-splenectomy – Down syndrome • are pregnant • are children aged 4 years and under who have been hospitalised for respiratory illness or have a history of significant respiratory illness • are children aged under 18 years living in the Seddon/Ward and rural Eastern Marlborough region (within the Nelson Marlborough District Health Board) and Kaikoura and Hurunui areas (within the Canterbury District Health Board) • are children aged under 18 years who have been displaced from their homes in Edgecumbe and the surrounding region • are patients who are compulsorily detained long-term in a forensic unit within a DHB hospital[c]

Continued overleaf

Vaccine	Individuals eligible for funded vaccine
Measles, mumps and rubella (MMR) (chapters 11, 13 and 18)	(Re-)vaccination of patients following immunosuppression[b]
Meningococcal C conjugate vaccine (MenCCV) and quadrivalent meningococcal conjugate vaccine (MCV4-D) (chapter 12)	Pre- and post-splenectomy or with functional or anatomical asplenia HIV Complement deficiency (acquired or inherited) Pre- or post-solid organ transplant Close contacts of meningococcal cases HSCT (bone marrow transplant) patients Following immunosuppression[b] Individuals aged between 13 and 25 years entering or in their first year of living in boarding school hostels, tertiary education halls of residence, military barracks, or prisons.
Pertussis-containing vaccines (chapter 14)	Pregnant women – recommended to be given from 16 weeks' gestation of every pregnancy, preferably in the second trimester, but at least two weeks before birth. (Funded when given any time in second or third trimester) Tdap is funded for parents or primary caregivers of infants admitted to a Neonatal Intensive Care Unit or Specialist Care Baby Unit for more than 3 days, who had not been exposed to maternal vaccination at least 14 days prior to birth (Re-)vaccination of patients who are: • post-HSCT or chemotherapy • pre- or post-splenectomy • pre- or post-solid organ transplant • undergoing renal dialysis or other severely immunosuppressive regimens

Continued overleaf

Vaccine	Individuals eligible for funded vaccine
13-valent pneumococcal conjugate vaccine (PCV13) and 23-valent pneumococcal polysaccharide vaccine (23PPV) (chapter 15)	PCV13 and 23PPV for (re-)vaccination of high-risk children aged under 5 years: • on immunosuppressive therapy or radiation therapy (vaccinate when there is expected to be a sufficient immune response) • with primary immune deficiencies • with HIV infection • with renal failure or nephrotic syndrome • who are immune-suppressed following organ transplantation (including HSCT) • with cochlear implants or intracranial shunts • with cerebrospinal fluid leak • who are receiving corticosteroid therapy for more than 2 weeks, and who are on an equivalent daily dosage of prednisone of 2 mg/kg per day or greater, or children who weigh more than 10 kg on a total daily dosage of 20 mg or greater • with chronic pulmonary disease (including asthma treated with high-dose corticosteroid therapy) • preterm infants, born before 28 weeks' gestation • with cardiac disease, with cyanosis or failure with diabetes • with Down syndrome • who are pre- or post-splenectomy, or with functional asplenia 1 dose of PCV13 for catch-up of high-risk children (over the age of 17 months and under 18 years who have received 4 doses of PCV10), and 2 doses of 23PPV for catch-up of high-risk children aged under 18 years. PCV13 and 23PPV for (re-)vaccination of patients aged 5 years and older: • with HIV • pre- or post-HSCT[d] or chemotherapy[d] • pre- or post-splenectomy or with functional asplenia • pre- or post-solid organ transplant • undergoing renal dialysis • with complement deficiency (acquired or inherited) • with cochlear implants • with primary immune deficiency • PCV13 and 23PPV for use in testing for primary immune deficiency.[a]

Continued overleaf

Vaccine	Individuals eligible for funded vaccine
Inactivated polio vaccine (IPV) (chapter 16)	(Re-)vaccination of patients following immunosuppression[b]
Tetanus and diphtheria (Td) (chapter 19)	(Re-)vaccination of patients following immunosuppression[b] Boosting of patients with tetanus-prone wounds For use in testing for primary immune deficiency[a]
Bacillus Calmette–Guérin (BCG) (chapter 20 and Appendix 8)	For infants at increased risk of tuberculosis (TB): • living in a house or family with a person with current or past history of TB; or • having one or more household members or carers who within the last 5 years lived in a country with a rate of TB ≥40 per 100,000 for 6 months or longer; or • during their first 5 years will be living 3 months or longer in a country with a rate of TB ≥40 per 100,000
Varicella vaccine (VV) (chapter 21)	Non-immune patients: • with chronic liver disease who may in future be candidates for transplantation • with deteriorating renal function before transplantation • prior to solid organ transplant • prior to any elective immunosuppression[b] • for post-exposure prophylaxis of immune-competent hospital in-patients Patients at least 2 years after bone marrow transplantation, on advice of their specialist Patients at least 6 months after completion of chemotherapy, on advice of their specialist HIV-positive patients with mild or moderate immunosuppression who are non-immune to varicella, on advice of their HIV specialist Patients with inborn errors of metabolism at risk of major metabolic decompensation, with no clinical history of varicella Household contacts of paediatric patients who are immunocompromised, or undergoing a procedure leading to immunocompromise, where the household contact has no clinical history of varicella Household contacts of adult patients who have no clinical history of varicella and who are severely immunocompromised or undergoing a procedure leading to immunocompromise, where the household contact has no clinical history of varicella

a Upon the recommendation of an internal medicine physician or paediatrician.

b The period of immunosuppression due to steroid or other immunosuppressive therapy must be longer than 28 days.

c This is a Pharmaceutical Schedule Section H – Hospital Medicines List funding restriction.

d PCV13 is funded pre- or post-HSCT or chemotherapy. 23PPV is only funded post-HSCT or chemotherapy.

Eligibility for publicly funded vaccines

Only vaccines given according to the Schedule are available free of charge, unless there is a specific funded programme in response to a recognised need (see Table 2). The immunisation benefit is paid by DHBs to providers for the administration of:

- all childhood Schedule vaccines
- influenza vaccine to eligible children and adults (ie, at higher risk of disease)
- HZV to individuals at age 65 years and for catch-up (until 31 March 2020) of individuals aged 66-80 years, inclusive
- hepatitis A, HepB, Hib, human papillomavirus (HPV), inactivated polio vaccine (IPV), MMR, meningococcal conjugate, pertussis, pneumococcal conjugate and/or polysaccharide, and varicella vaccines only, for eligible children and adults (ie, at higher risk of disease).

Currently there is no funding provided for the administration of tetanus and diphtheria (Td) boosters given at ages 45 and 65 years, although the vaccine is free.

The *Health and Disability Services Eligibility Direction 2011* (the Eligibility Direction) issued by the Minister of Health sets out the eligibility criteria for publicly funded health and disability services in New Zealand. Only people who meet the eligibility criteria defined in the Eligibility Direction can receive publicly funded (ie, free or subsidised) health and disability services.

Regardless of their immigration and citizenship status, all children aged under 18 years are eligible to receive Schedule vaccines, and providers can claim the immunisation benefit for administering the vaccines. All children are also eligible for Well Child Tamariki Ora services.

Non-residents who were aged under 18 years when they commenced HPV vaccination are currently funded to complete the course, even if they are aged 18 years or older when they complete it.

Further information on eligibility can be found on the Ministry of Health website (www.health.govt.nz/eligibility).

Notifiable diseases

All diseases preventable by vaccines on the Schedule (or as part of a targeted programme) are notifiable, except for HPV, seasonal influenza, rotavirus, varicella and herpes zoster.

Note: Rotavirus infections presenting as gastroenteritis are notifiable as acute gastroenteritis.

> It is a legal requirement (Health Act 1956) that health professionals notify their local medical officer of health of any notifiable disease they suspect or diagnose so that appropriate action (eg, public health prevention and control activities) can be undertaken.

Notification processes, and the diseases to which they relate, have been updated in the Health Act and supporting Health (Infectious and Notifiable Diseases) Regulations 2016. See the Ministry of Health document *Guidance on Infectious Disease Management under the Health Act 1956* (available at www.health.govt.nz/publication/guidance-infectious-disease-management-under-health-act-1956) for an explanation, as well as the processes and forms for notifiable diseases.

The case definitions used by the medical officer of health to classify the notified case for surveillance purposes (and to assist in identifying appropriate prevention and control activities) and the laboratory tests required to confirm the diagnosis can be found in the *Communicable Disease Control Manual 2012*. For the most up-to-date information, refer to the online version (available at www.health.govt.nz/publication/communicable-disease-control-manual-2012).