



The HPV (Human Papillomavirus) Immunisation Programme

National Implementation Strategic Overview

**June 2008
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Executive Summary

New Zealand's HPV Immunisation Programme has the potential, long term, to prevent cervical cancer for 2 women every week, saving over 30 lives every year. In New Zealand, approximately 160 women are diagnosed with cervical cancer each year and 60 women die from it. Māori women are almost twice as likely to get cervical cancer, and almost three times as likely to die of it, compared to non-Māori women.

Over 99 percent of all cervical cancer is linked to infection with Human Papillomavirus (HPV). Now with the availability of a vaccine which is highly efficacious against the HPV types responsible for approximately 70% cervical cancers, there is an important opportunity for the primary prevention of cervical cancer. Cervical screening will continue to be essential in preventing cervical cancer caused by other HPV types, and for those who miss out on immunisation.

The HPV Immunisation Programme has the potential to reduce ethnic inequalities in cervical cancer. A clear focus on achieving equity for those with highest need and at highest risk of missing out on immunisation or screening programmes is critical.

The goal of the HPV Immunisation Programme is to implement an equitable, ongoing immunisation programme for girls in school year 8 (or age 12 if not delivered in a school-based programme), and a catch-up programme for girls born on or after 1 January 1990, to provide protection against HPV infections which lead to most cervical cancers.

Programme priorities are based on the following key points:

- there is a high risk of ethnic inequalities in immunisation coverage and subsequent increases in ethnic inequalities in cervical cancer. Avoiding these outcomes by focusing on achieving equitable coverage is the primary objective for this programme
- Māori currently have the lowest immunisation rate of any ethnic group in New Zealand
- Māori and Pacific women and women living in high deprivation areas are most at risk of cervical cancer
- the vaccine is most effective when administered before the onset of sexual activity
- school-based programmes are associated with higher coverage rates and reduced inequalities compared to vaccine delivery in other settings.

HPV immunisation will be added to the National Immunisation Schedule for girls in school year 8 (or age 12 if not delivered in a school-based programme) on an ongoing basis, with a phased catch-up programme available for girls born on or after 1 January 1990. The phased catch-up programme commences from 1 September 2008 for girls born in 1990 and 1991, delivered by their family doctor or practice nurse, Māori and Pacific providers, youth health services or other health clinics and settings. The school-based catch-up programme will be phased over 2009 and 2010.

Planning, coordinating and delivering three doses of HPV vaccine to approximately 300,000 girls and young women over the next 2 years is a major undertaking. The focus on equity, the importance of completing the three-dose course, the need to ensure high

clinical standards, and the interface with schools and other delivery settings requires extensive planning and coordination.

The effectiveness of the programme and success in reducing inequalities in cervical cancer hinges upon achieving high immunisation coverage for all three doses of vaccine for the ongoing vaccination cohort. Ensuring Māori and Pacific girls' participation in the programme is essential.

Programme implementation will require a partnership approach between Ministry of Health, DHBs and their Māori and Pacific stakeholders, primary care providers, the Ministry of Education, schools, other key stakeholders, and most importantly, communities, whānau, parents and caregivers, and girls and young women.

Effective communication is an essential element of successful implementation. A communication strategy identifying key audiences and stakeholders, their specific considerations, supporting messages, and delivery channels has been in place since February 2008.

The programme will start around the same time throughout the country. DHBs will provide leadership in their area and will prepare a local implementation plan within a nationally consistent framework, with a focus on achieving equity for their populations. It is recommended that the majority of girls and young women be offered immunisation through school-based programmes to optimise coverage and reduce inequalities. Specific strategies will be required in each region to ensure equitable coverage for Māori and Pacific girls. Coverage targets will be set with DHBs.

As cervical cancer develops over ten or more years, the benefits of the HPV immunisation in reducing the incidence of and mortality from cervical cancer, and in reducing inequalities, will not be evident for some time. However, the reduction in the incidence of persistent HPV infection and abnormal cervical changes will be apparent much sooner. There will be fewer abnormal smear results, freeing up valuable health sector resources and most importantly, fewer women will have to go through the stress of receiving an abnormal smear result, as well as the extra tests, diagnoses and invasive treatments which can follow as a result.

1. Introduction

The HPV Immunisation Programme has the potential in the long term to prevent cervical cancer for approximately 2 women per week. Cervical cancer is one of the most preventable types of cancer. In New Zealand approximately 160 women are diagnosed with cervical cancer each year and 60 women die from it (NZHIS 2007). For Māori women, cervical cancer is the 4th most common cause of cancer registration (Cormack, Purdie et al 2007).

New Zealand's National Cervical Screening Programme has led to a large reduction in the incidence and mortality from cervical cancer in New Zealand. The screening programme has been more effective for non-Māori than Māori. Māori women are almost twice as likely to get cervical cancer, and almost three times as likely to die of it, compared to non-Māori women (Cormack, Purdie et al 2007). Ethnic differences in the risk of dying from cervical cancer are avoidable.

Immunisation and screening programmes will increase ethnic inequalities unless there is a clear focus on achieving equity for those with highest need and at highest risk of missing out on the programme.

Over 99 percent of all cervical cancer is linked to genital infection with Human Papillomavirus (HPV). HPV is also associated with other anogenital cancers. The development of a highly efficacious vaccine against two of the major cancer causing types of HPV presents an important opportunity for the primary prevention of cervical cancer.

HPV affects an estimated 80% of sexually active women with the peak incidence of infection occurring in women between 16 and 20 years old. Most cases of HPV have no symptoms and will clear by themselves. There are over 100 types of HPV of which 40 infect the genital area, and of these up to 20 are considered to cause cancer.

Immunisation is a safe, reliable and cost-effective strategy to prevent illness, improve health and reduce mortality. The HPV Immunisation Programme has the potential to reduce ethnic inequalities in cervical cancer. To ensure that the HPV Immunisation Programme does not widen ethnic inequalities, specific attention needs to be given to ensure that the immunisation strategy meets the needs of Māori as Māori suffer the greatest burden of cervical cancer, yet are the group least likely to receive vaccination. This programme will explicitly aim to achieve equitable coverage for Māori.

Immunising against HPV is an important component of a comprehensive approach to cervical cancer control. HPV immunisation targets the HPV types responsible for causing approximately 70% of cases of cervical cancer. Screening for precancerous and early cancerous cervical changes will continue to be essential in preventing cervical cancer caused by other HPV types and for those who miss out on HPV immunisation and requires ongoing promotion. HPV immunisation will not provide protection from other sexually transmitted infections.

The HPV vaccine is effective when it is administered before a woman is infected with HPV, that is, before the onset of sexual activity. As cervical cancer develops over ten or

more years, the benefits of HPV immunisation in reducing the incidence of and mortality from cervical cancer will not be evident for some time. It is expected that in the long term over 30 lives a year will be saved. However, the reduction in the incidence of persistent HPV infection and abnormal cervical changes will be apparent much sooner. There will be fewer abnormal smear results, freeing up valuable health sector resources and most importantly, fewer women will have to go through the stress of receiving an abnormal smear result, as well as the extra tests, diagnoses and invasive treatments which can follow as a result.

HPV immunisation will be added to the National Immunisation Schedule for girls in school year 8¹ (or age 12 if not delivered in a school-based programme) on an ongoing basis, with a phased catch-up programme available for girls born on or after 1 January 1990. The phased catch-up programme commences from 1 September 2008 for girls born in 1990 and 1991, and will be delivered by their family doctor or practice nurse, Māori and Pacific providers, youth health services or other health clinics and settings. The school-based catch-up programme will be phased over 2009 and 2010.

Eligible young women who are sexually active may still benefit from receiving the HPV vaccine, as they may not have been exposed to the HPV types that the vaccine protects against. Girls and young women will not be asked if they are sexually active before receiving HPV vaccine.

Overseas research has found that there is no increase in sexual activity, or any lowering in the age of initiation of sexual activity after sexual health education is given to young people. Therefore, offering girls information on vaccination about a sexually transmitted infection is unlikely to increase sexual activity. The HPV immunisation programme aims to help protect girls and young women from developing cervical cancer later in life.

Purpose of this document

This document aims to:

- provide background information on cervical cancer, inequalities, and HPV
- present the relevant New Zealand policy context
- present the programme, purpose, goals and objectives
- outline the need for the programme to have a strong focus on achieving equity
- provide information on programme development
- outline the approach to programme implementation.

This document may be used by:

- any organisation involved with planning, implementing or delivering the HPV immunisation programme
- any health professional discussing HPV vaccine with parents, whānau and girls or young women.

More information about the HPV Immunisation Programme will follow later in 2008 and will be available on the Ministry of Health website at: www.moh.govt.nz/immunisation.

¹ School Year 8 may include girls aged 11 to 13 years.

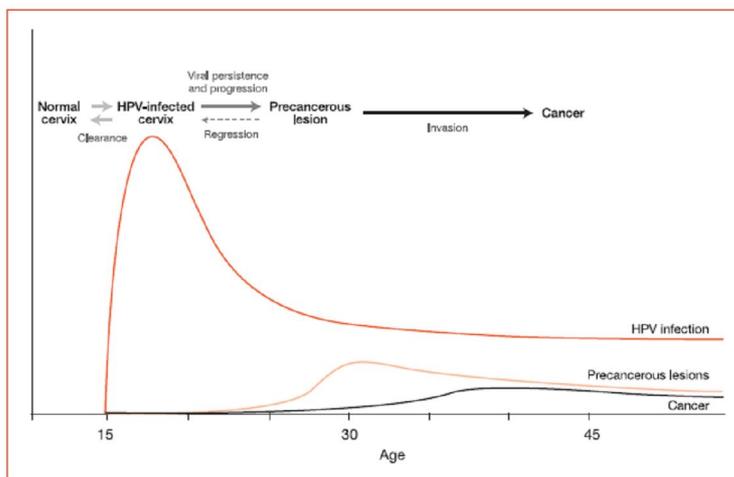
2. Background

Cervical Cancer

Cervical cancer usually develops very slowly over ten, twenty or more years. There are two types of cervical cancer, squamous cell cancer and adenocarcinoma. Squamous cell cancer is most common and originates at the junction between the vagina and cervix. Adenocarcinoma arises from glandular cells in the cervix. The precursors to cervical cancer are abnormal cell changes called cervical intraepithelial neoplasia (CIN) 2 or 3 (moderate or high-grade cell abnormalities) and adenocarcinoma in situ (AIS). The detection of these changes through regular cervical screening has been shown to prevent invasive cervical cancer.

Almost all cases of cervical cancer are linked to genital infection with HPV (Gilson and Mindel 2001). Although HPV infection is common and usually clears without treatment, persistent infection with high-risk types of HPV can lead to precancerous cell changes. Immunisation aims to prevent these abnormal precancerous changes and hence, the later development of invasive cervical cancer. Figure 1 provides an overview of the development of cervical cancer over time.

Figure 1 Prevalence of HPV infection, precancerous lesions and cervical cancer by age (Source: WHO and UNFPA 2006)



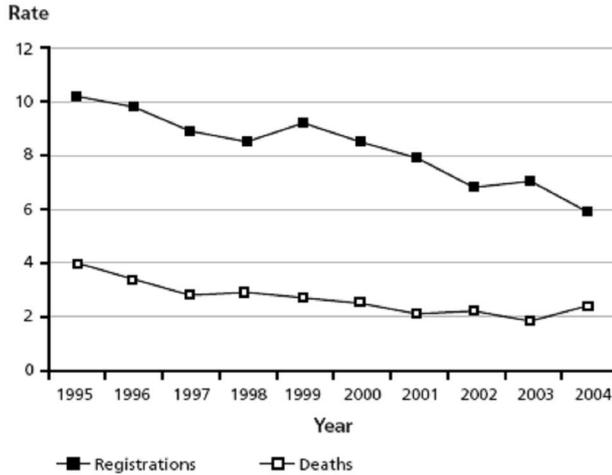
Source: Schiffman M, Castle PE. The promise of global cervical-cancer prevention. *New England Journal of Medicine*, 2005, 353(20): 2101–2103. (© 2005 Massachusetts Medical Society. Adapted with permission.)

Cervical cancer in New Zealand

In 2004 cervical cancer was the third most common cause of cancer registration, and the fifth most common cause of cancer death, for women aged 25 to 44 years (New Zealand Health Information Service 2007). From 1990 to 2004 the mortality rate for cervical cancer has decreased by 52% (from 5.0 to 2.4 per 100,000 females). For the same period there was a 51% decrease in cervical cancer registrations (from 12 to 5.9 per

100,000 females). Figure 2 shows the reduction in cervical cancer deaths and registrations over the 10-year period to 2004.

Figure 2 Cervical cancer registrations and deaths, 1995–2004 (Source:NZHS 2007)



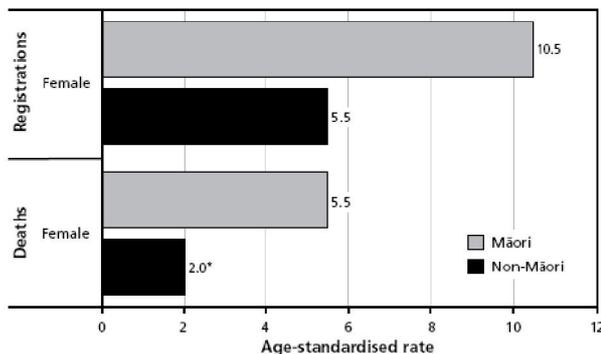
Note: rates per 100,000, age-standardised to Segi's world population.

Ethnic inequalities in cervical cancer

There are ethnic disparities in cancer incidence and survival across a number of different types of cancer (Cormack, Purdie et al 2007). Achieving equitable outcomes for Māori is an explicit goal for the Cancer Control Strategy (Ministry of Health 2003) and a key component of He Korowai Oranga, the Māori Health Strategy (Ministry of Health 2002).

Figure 3 demonstrates the disparities in cervical cancer, with an almost two-fold higher registration rate for Māori women compared to non-Māori women (10.5 compared to 5.5 per 100,000) and an almost three-fold higher mortality rate (5.5 compared to 2 per 100,000) (New Zealand Health Information Service 2007).

Figure 3 Cervical cancer registrations and deaths by ethnicity, 2004(Source: NZHS 2007)



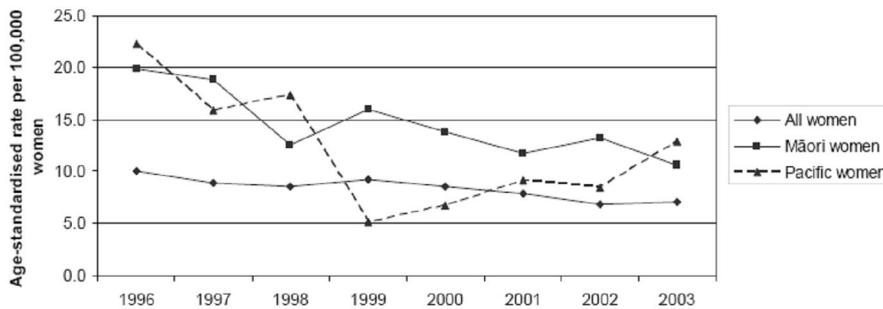
Note: rates per 100,000, age-standardised to Segi's world population.

* = rate based on a small number of cases

Figure 4 shows the decline over time in cancer incidence and mortality for Māori, Pacific and all women (Brewer, McKenzie et al 2007).² Although disparities in cervical cancer incidence and mortality appear to be reducing, Māori and Pacific women still experience substantially higher levels of disease and mortality.

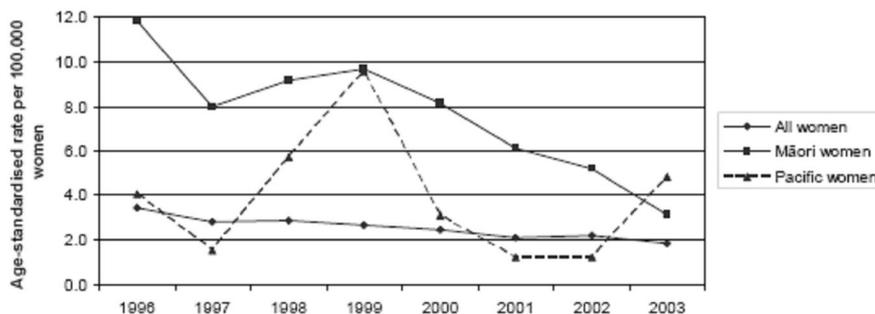
Figure 4 Age-standardised cervical cancer incidence and mortality rates 1996-2003* (NZHIS data from Brewer, McKenzie et al 2007)

a. Incidence



*2003 data is provisional
Rates per 100,000, age-standardised to Segi's world population

b. mortality



*2003 data is provisional
Rates per 100,000, age-standardised to Segi's world population

Ethnic inequalities in cancer result from multiple influences including differences in:

- underlying determinants of health
- exposure to risk and protective factors
- access to screening
- access to timely, high quality treatment (Cormack, Purdie et al 2007).

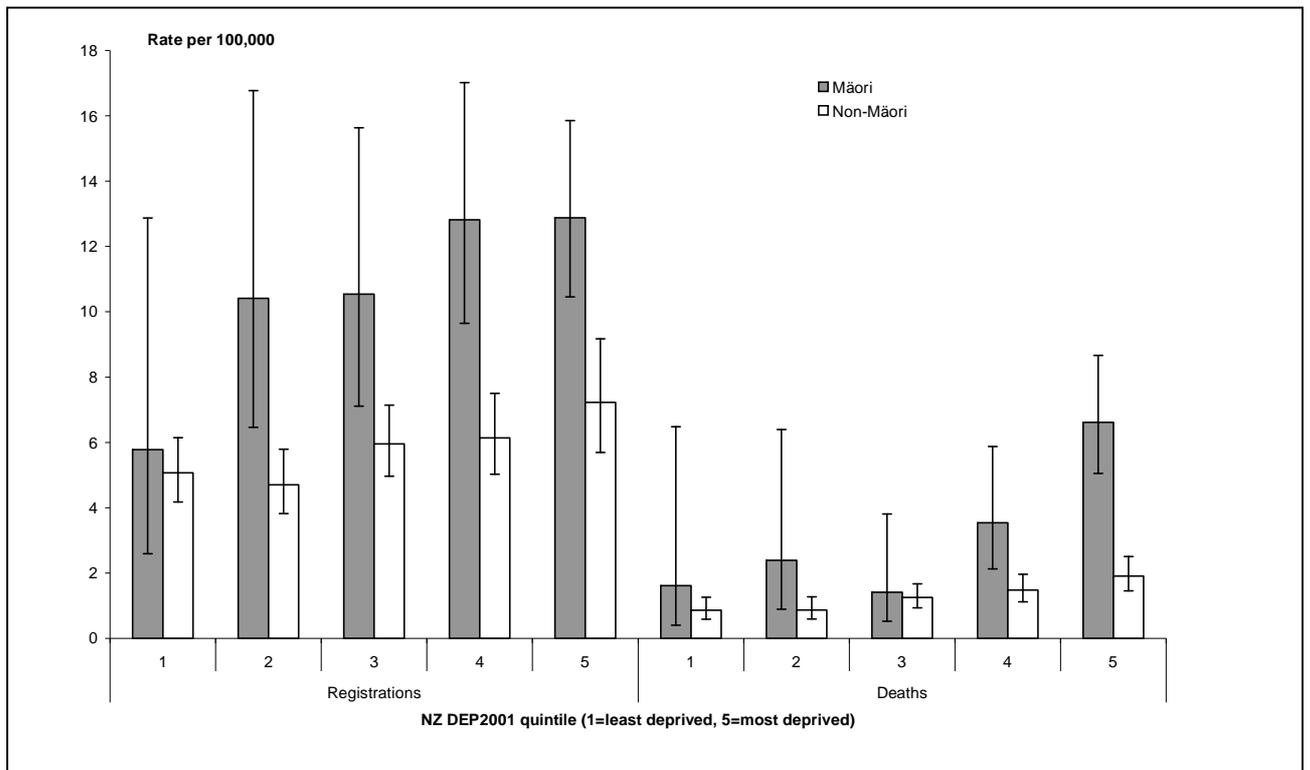
Māori women have been less likely to be diagnosed at an early stage of disease spread (Cormack, Purdie et al 2007). The later stage at diagnosis accounts for almost all of the higher mortality risk experienced by Māori women.

² Note that actual inequalities are greater than depicted as Maori and Pacific women are also included in the “all women” category. Rates for Pacific women are subject to substantial fluctuation and should be interpreted with caution due to small numbers.

Socioeconomic inequalities in cervical cancer

There are marked socioeconomic inequalities in cervical cancer (see Figure 5). Cancer incidence and mortality are associated with increasing deprivation, the gradient of which is steepest for Māori. Māori ethnicity is a much stronger marker of risk of cervical cancer incidence and mortality than deprivation; Māori incidence and mortality are much higher than non-Māori in each deprivation quintile. Mortality for non-Māori in quintile five is only slightly higher than mortality for Māori in quintile one.

Figure 5 Age-standardised cervical cancer incidence and mortality, by deprivation quintile, females, 2000–2005



Source: Unpublished data from Te Ropu Rangahau Hauora a Eru Pomare June 2008

Human Papillomavirus

HPV infection is very common and is associated with significant morbidity, mortality, as well as cost to the health care system, particularly in relation to its causal role in cervical cancer. There are well over 100 types of HPV and approximately 40 of them infect the genital area. Of these up to 20 types are considered to cause cancer.

The peak incidence occurs in young people shortly after the onset of sexual activity. Genital HPV infection is primarily transmitted by genital skin-to-skin contact usually, but not necessarily, during sexual intercourse. Co-infection with more than one virus type can occur. Genital HPV infection is usually asymptomatic, most do not have obvious warts, and over 90% resolve without treatment within two years (Cutts et al 2007, Gilson and Mindel 2001).

HPV types are categorized as high or low risk based on their association with cervical cancer. Two high-risk HPV types, 16 and 18, account for approximately 70 percent of cervical cancers; the remaining 30% are caused by a variety of other oncogenic HPV types. HPV-16 infection is found in approximately 60 percent and HPV-18 found in approximately 10 percent of cervical cancers. HPV infection with high-risk HPV types can also cause anogenital (vulva, vagina, anal and penile) cancers and some oropharyngeal cancers.

Two low-risk HPV types, 6 and 11, cause a substantial proportion of low-grade cervical dysplasia (cell abnormalities) detected in screening and more than 90 percent of genital warts, a visible manifestation of HPV infection (WHO and UNFPA 2006).

New Zealand epidemiology

In 2004 genital warts were the most commonly reported viral sexually transmitted infection (STI) by sexual health clinics in New Zealand, with 4018 new diagnoses in males and females (ESR 2007).³ The age group most affected by genital warts is young adults aged 15–24 years; for females, genital warts were most common in the 15 to 19 year old age group.

New Zealand research on women attending colposcopy clinics identified 221 out of 513 cervical swabs tested positive for HPV (43%), 141 of which were oncogenic types. Twenty-two different types of HPV were detected, including 14 of the 18 known oncogenic types. HPV type 16, 18, and 31 were the most common oncogenic types detected (Ministry of Health 2006).

There has been a substantial lowering of the age at first sexual intercourse over the past few decades. The available New Zealand information on the timing of onset of sexual activity includes:

- In the 2001 Youth Health Survey of year 9 to 13 secondary school students 17% of students aged 13 years reported they had had sexual intercourse, 25% of students aged 14 years, and 33% of students aged 15 years (Adolescent Health Research Group 2003)
- The Dunedin multidisciplinary health and development study reported the median age at first intercourse was 17 years for men and 16 years for women. 32% of women reported having had intercourse at age 15 or less and 5.7% reported age 13 or less (Dickson, Paul et al 1998).

³ Surveillance data obtained from sexual health clinics, youth health clinics and some family planning clinics, primary care not included and therefore likely to underestimate true burden of disease.

3. Policy Context to the HPV Immunisation Programme

In May 2008 the Government announced new funding of \$164.2 million over five years for a HPV immunisation programme in New Zealand. Additionally, the Ministry of Health has invested another \$13 million of baseline funding to the programme making the total five year investment around \$177 million. The ongoing programme cost is around \$16 million per year.

Implementing an immunisation programme against cervical cancer is a major undertaking which is influenced by, and impacts on, a number of different areas of work. The development of the HPV immunisation programme is guided by and recognises the following key strategies:

- New Zealand Health Strategy
- New Zealand Primary Health Care Strategy
- New Zealand Cancer Control Strategy
- He Korowai Oranga Māori Health Strategy
- Pacific Health & Disability Action Plan
- Sexual and Reproductive Health Strategy – Phase 1
- Reducing Inequalities Framework
- Youth Health Action Plan
- Youth Development Strategy.

By focusing clearly on achieving equity for vulnerable populations, applying these frameworks and building on the experiences from past vaccination and screening strategies, this programme has the opportunity to achieve high levels of vaccination coverage and prevent the development of cervical cancer for approximately 2 women per week.

Cancer Control in New Zealand

The New Zealand Cancer Control Strategy outlines the New Zealand Government's comprehensive and coordinated strategic approach to controlling cancer and reducing inequalities. This incorporates strategies across the spectrum from prevention and early detection and screening through to treatment, rehabilitation and palliation.

New Zealand's National Cervical Screening Programme (NCSP) is currently the core component of cervical cancer prevention. Cervical screening reduces a woman's risk of developing invasive cervical cancer by 90%. Cervical screening programmes are based on three-yearly cytological screening to detect, monitor and treat precancerous lesions at an early stage.

The National Cervical Screening Programme

Before the NCSP was introduced, opportunistic screening took place in many general practices and family planning clinics but there was no organised programme or national standards. The NCSP was established in 1990 following the recommendations from the 1988 Cartwright Inquiry Into Allegations Concerning the Treatment of Cervical Cancer at

Auckland's National Women's Hospital. The NCSP recommends three-yearly screening of women aged 20 to 69 years if they have ever been sexually active.

Following a rapid increase over the early 1990s, the coverage for the total population of eligible women aged 20–69 years has been relatively stable at approximately 73%. New Zealand women are not being screened optimally; the NCSP has not yet achieved equitable coverage for Māori, Pacific, or Asian women. Māori, Pacific and Asian women have approximately 20 to 25% lower coverage compared to European women.

The Cervical Screening Communications Campaign⁴ that began in 2007 particularly targets Māori and Pacific women with a focus on achieving equity for all New Zealanders. A similar campaign by BreastScreen Aotearoa found that screening rates increased by 2% for Māori, 4% for Pacific, and 2% for other New Zealanders, illustrating that targeted communications campaigns can be effective for the ethnic groups targeted and for other groups.

Immunisation

The revised 2008 National Immunisation Schedule covers ten vaccine-preventable diseases. New Zealand's immunisation coverage has been low compared to other OECD countries and there are disparities by ethnicity. At present the Year 7 (age 11 years) diphtheria, tetanus and pertussis vaccine is delivered in school based programmes in North Island and Nelson Marlborough DHBs, and by primary care providers for the remainder of the South Island.

Māori children have significantly lower vaccination rates than non-Māori. The 2005 National Childhood Immunisation Coverage Survey showed 2-year-old coverage rates were 69% for Māori compared to 80.1% for European children, and 80.7% for Pacific children (Ministry of Health 2007). There was a trend for declining coverage rates with each sequential dose of combined vaccines. The National Immunisation Register (NIR) commenced operation in 2005. NIR coverage data for the year ending March 2008 shows 2-year-old coverage rates of 79% for European children, 65% for Māori, 70% for Pacific and 76% for Asian children. Data is not available for year 7 vaccination.

The recently completed mass immunisation programme for controlling the meningococcal type B epidemic has provided valuable information and experience, much of which will be used to inform the development and implementation of the HPV programme (for further information see Appendix 4).

Particular attention needs to be given to the lessons and recommendations for improving delivery for Māori and Pacific for the HPV Immunisation Programme. Despite intensive efforts, the meningococcal B programme was less effective for Māori. This demonstrates that even greater effort is necessary to avoid vaccination disparities for Māori (Loring 2007). Of all age groups, the school-based programme for 5 to 17 year old children achieved the highest immunisation coverage, particularly for tamariki Māori, and disparities were less pronounced (Loring 2007). For this age band the immunisation coverage was 82% for Māori, 97% for Pacific, and 86% for other children (CBG Health Research 2006).

⁴ See <http://www.nsu.govt.nz/Current-NSU-Programmes/2445.asp>

4. HPV Immunisation Programme Purpose, Goals and Objectives

Rationale

HPV is responsible for a substantial burden of disease for New Zealand women, the most important of which is cervical cancer. HPV is highly transmissible and affects the majority of women and men at some stage in their life. For the small number of women with persistent HPV infection, precancerous cervical changes can occur, and if not detected and treated, can lead to invasive cervical cancer. Immunisation against HPV is an important, and likely to be a cost-effective, strategy to prevent cervical cancer.

Māori have the highest rate of cervical cancer and the lowest immunisation rate of any ethnic group in New Zealand. The major challenge of the programme is to improve on current and previous New Zealand vaccination programmes which have achieved significantly lower coverage rates for Māori than for other New Zealanders.

Programme development and implementation priorities are based on the following five key points:

- there is a high risk of ethnic inequalities in immunisation coverage and subsequent increases in ethnic inequalities in cervical cancer. Avoiding these outcomes by focusing on achieving equitable coverage is the primary objective for this programme
- Māori currently have the lowest immunisation rate of any ethnic group in New Zealand
- Māori and Pacific women and women living in high deprivation areas are most at risk of cervical cancer
- the vaccine is most effective when administered before the onset of sexual activity
- school-based programmes are associated with higher coverage rates and reduced inequalities compared to vaccine delivery in other settings.

Cost effectiveness studies have found that HPV vaccine has a favourable cost per quality adjusted life year (QALY) gained. Achieving high HPV immunisation coverage for all three doses for girls prior to or early in adolescence is predicted to be the best strategy for reducing HPV infection and HPV associated disease (Villa 2006, WHO 2007).

From 2009 HPV immunisation will be recognised on the National Immunisation Schedule for girls in school year 8⁵ (or age 12 if not delivered in a school-based programme). This age was selected for the vaccination cohort based on vaccine recommendations in other countries, New Zealand epidemiology, and a Ministry of Health commissioned survey of parental attitudes.

⁵ School Year 8 may include girls aged 11 to 13 years.

The catch-up programme offered to girls and young women born on or after 1 January 1990 aims to extend the benefits of HPV immunisation to older girls and young women. The median age of onset of sexual activity for women in New Zealand is around 16 years. Young women who have already commenced sexual activity may not have been exposed to the types of HPV covered by the vaccine and would still benefit from vaccination, irrespective of commencement of sexual activity.

Vaccinating males may further reduce the incidence of cervical cancer by reducing HPV transmission, however the additional benefit gained may not be large, particularly if high female coverage is achieved (Cutts and Franceschi et al 2007, WHO 2007). HPV-related cancers are rare in males. For these reasons, the role of a national HPV immunisation programme for males is subject to ongoing evaluation. The effectiveness of HPV immunisation of women in older age groups is also the subject of ongoing evaluation.

Programme Purpose

The overall purpose of the programme is to reduce the incidence of HPV infection and the subsequent development of cervical cancer and to reduce inequalities in cervical cancer.

Underpinning Principles

The HPV immunisation programme will be developed and implemented based on a series of underpinning principles. The programme will:

- Have a clear focus on achieving equity
- be effective
- be evidence-based
- acknowledge the special relationship between Māori and the Crown and include the active participation of and partnership with Māori at all levels.
- use a partnership approach across all sectors and with communities
- respect and value the rights and perspectives of consumers, parents and guardians, and children and young people
- be responsive to monitoring and evaluation findings.

Programme Goal

To implement an equitable, ongoing immunisation programme for girls in school year 8 (or age 12 if not delivered in a school-based programme) and a catch-up programme for girls born on or after 1 January 1990 to help provide protection against HPV infection and the subsequent development of cervical cancer, particularly for those groups most at risk of developing cervical cancer.

Programme Objectives

1. To have a clear focus on achieving equity in order to enable Māori and Pacific girls and young women to have as equal an opportunity to benefit from the programme as other New Zealanders.

2. To ensure the equitable delivery of an ongoing safe and effective HPV immunisation programme to all girls in school year 8 (or age 12 if not delivered in a school-based programme).
3. To ensure the equitable delivery of a safe and effective HPV immunisation catch-up programme to all eligible girls and young women born on or after 1 January 1990.

Implementation Priorities

Key implementation priorities

Of paramount significance, the unequal impact of cervical cancer on Māori in incidence, mortality and survival, as well as marked disparities in access to screening and immunisation, requires Māori to be recognised as the highest priority group.

The success of the programme in preventing HPV infection and reducing inequalities in cervical cancer hinges upon achieving high immunisation coverage for all three doses of vaccine for the ongoing vaccination cohort (girls in School Year 8 or age 12 if not delivered in a school-based programme).

Vaccinating girls in the ongoing vaccination cohort, most especially Māori, is where the greatest benefit is to be gained and achieving high immunisation coverage for these girls is where the greatest effort should be directed. Ensuring the vaccination of Māori and Pacific girls will be essential if the programme is to attain high immunisation coverage.

The key priorities of the HPV programme are:

1. High coverage for Māori girls in the ongoing vaccination cohort.
2. High coverage for Pacific girls in the ongoing vaccination cohort.
3. High coverage for all girls in the ongoing vaccination cohort.

The key priorities for the HPV Immunisation Programme are based on programme effectiveness and achieving equitable coverage for Māori and Pacific communities. The HPV Immunisation Programme must be effective for those women who experience the greatest burden of cervical cancer and who are at highest risk of missing out on the programme. This requires a clear focus on achieving equitable immunisation coverage to ensure that further health inequalities are not created.

Māori experience the greatest burden of cervical cancer in terms of incidence, mortality and survival, and have the lowest immunisation rate of any ethnic group in New Zealand. These factors, together with marked disparities in access to screening programmes, require Māori to be recognised as the highest priority group. The major challenge of the programme is to improve on current vaccination and screening programmes which have achieved significantly lower coverage rates for Māori than for other New Zealanders.

Pacific girls and young women are also a priority population for this programme. Although Pacific children had high uptake of MeNZB™ vaccine, NIR coverage data shows Pacific have a lower uptake of childhood immunisations compared to European children, and there are substantially lower rates of cervical screening for Pacific women. Given there are differences between the MeNZB™ programme and the HPV

Immunisation Programmes in terms of the nature of the disease, additional effort is required to ensure that Pacific women benefit from the HPV Immunisation Programme.

It is important that this programme reaches populations who may also be at higher risk of cervical cancer or for whom screening programmes are less accessible. Particular effort is required to ensure the programme is effective for young women out of school, Asian women or women from socioeconomically disadvantaged or refugee or migrant backgrounds.

Within the catch-up programme for girls and young women born on or after 1 January 1990, reaching Māori and Pacific girls must also be prioritised. The highest risk of creating inequality in immunisation coverage lies around the effectiveness of the programme for Māori and Pacific and girls who miss out on the opportunity to be immunised at school.

Mechanisms to ensure equitable coverage

Differential effort is required for the HPV Immunisation Programme to be most effective for women who experience the greatest burden of cervical cancer. In particular, targeting additional efforts at achieving early, optimal uptake amongst Māori girls is necessary (Loring 2007). The following key mechanisms will be used to ensure that the programme is effective for Māori and Pacific women:

- equitable funding i.e. there is additional funding to ensure the programme is effective for Māori and Pacific girls and young women
- differential timing to reach national coverage targets i.e. given the burden of cervical cancer experienced by Māori, DHBs are to prioritise reaching targets earlier for Māori and Pacific girls and young women
- Service specifications requiring DHBs to work with Maori and Pacific communities in planning and implementing their programme, and to use specific strategies to ensure high immunisation coverage for Māori and Pacific girls, including whānau engagement.
- the use of a school-based delivery model where possible
- the Ministry of Health providing guidance and support to DHBs to ensure their project implementation plans contain specific strategies to ensure high immunisation coverage for Māori and Pacific girls
- the Ministry of Health and DHBs to ensure national and local communications and resources are appropriate for Māori and Pacific communities
- the Ministry of Health to provide DHBs with opportunities to share knowledge and experiences with each other on how to ensure the programme is effective for Māori and Pacific communities, including learning from other successful Māori-led and Pacific-led initiatives in their regions or from across New Zealand
- The Ministry of Health Ethnicity Protocols for the Health and Disability Sector will be used for the collection of ethnicity data to allow for accurate monitoring of the programme's success in achieving high coverage for Māori and Pacific girls and young women.

To implement the HPV immunisation programme equitably for Māori girls and young women specific strategies are required in all phases from policy and programme design, workforce training, implementation, data collection and evaluation. DHBs will need to involve Māori early in programme development and allow adequate time for consultation and capacity building before the programme commences.

Additional measures to support engagement with Māori and increased immunisation uptake of Māori girls and young women will include (Loring 2007):

- research on Māori and Pacific attitudes and knowledge regarding HPV in order to guide and shape programme development
- specific community awareness-raising activities targeted to Māori
- sufficient time and culturally appropriate information and methods of delivering information to parents and girls
- intensive, culturally appropriate follow-up of children for whom consent forms have not been returned
- offering alternative vaccination settings, determined in consultation with Māori
- ensuring that the school-based programme accommodates for the 10% of children who are absent from school on a given day.

Childhood immunisations

Immunising infants remains a key health priority as does reaching immunisation targets for two-year-old children. Efforts should be made so that the HPV Immunisation Programme does not adversely impact on the infant immunisation programme. District Health Boards will continue to maintain the usual child and family health services as much as possible.

HPV Immunisation Coverage Targets

High immunisation coverage for all three doses of vaccine is essential to help protect as many girls and young women as possible against HPV infection and cervical cancer. The budget available for the ongoing vaccination cohort is based on 100% immunisation coverage.

Coverage targets are being developed in partnership with DHBs and will be confirmed following further discussion (see Table 1). Ultimately, and over the longer term, the programme aims to achieve high coverage. The success of the school-based component of the meningococcal B programme, indicates that high coverage is achievable, particularly for girls in the ongoing vaccination cohort of the HPV programme, although special effort is required for achieving high coverage for Māori.

Given that HPV is a new vaccine, sufficient time and appropriate resources are required for communities, parents, young women and girls to have the information required to make a decision on HPV immunisation. DHBs, with the Ministry of Health, will develop achievable interim targets to measure progress towards the higher national targets, acknowledging the challenges of establishing a new programme, current progress in Year 7 immunisation coverage, and the need to continue increasing immunisation coverage for children less than 2 years of age. Unlike the urgency of a mass immunisation campaign for epidemic control, once a girl is eligible for the programme, a longer time period is available for girls and young women to receive the HPV vaccine.

Table 1 Proposed national coverage targets for the HPV Immunisation Programme*

<p>The ongoing vaccination cohort</p> <p>The ongoing vaccination cohort includes girls who receive the vaccine at school in year 8 (which may include girls from age 11 to 13 years) and girls aged 12 years who receive the vaccine in other settings such as primary care, Māori and Pacific services, youth health or other settings</p>
<p>Coverage targets for girls in each ongoing vaccination cohort:</p> <p>From 2011 90% of Māori girls, 90% of Pacific girls and 90% of all girls will have received 3 doses of HPV vaccine by 31 December of the year in which they are eligible</p> <p>By 31 December of the fourth year after which they became eligible 92% of Māori girls, 92% of Pacific girls and 92% of all girls will have received 3 doses of HPV vaccine</p> <p>By 31 December of the sixth year after which they became eligible 95% of Māori girls, 95% of Pacific girls and 95% of all girls will have received 3 doses of HPV vaccine</p>
<p>The catch-up programme</p> <p>1. Coverage targets for girls born from 1992 to 1996 inclusive (aged 13 to 16 years):</p> <p>By 31 December 2011 85% of Māori girls, 85% of Pacific girls, and 85% of all girls born from 1992 to 1996 inclusive will have received 3 doses of HPV vaccine</p> <p>2. Coverage targets for girls born in 1990 and 1991 inclusive (aged 17 to 18 years)</p> <p>By 31 December 2011 75% of Māori girls, 75% of Pacific girls, and 75% of all girls born in 1990 to 1991 inclusive will have received 3 doses of HPV vaccine</p>

* Interim coverage targets will be negotiated with each DHB for 2009 and 2010.

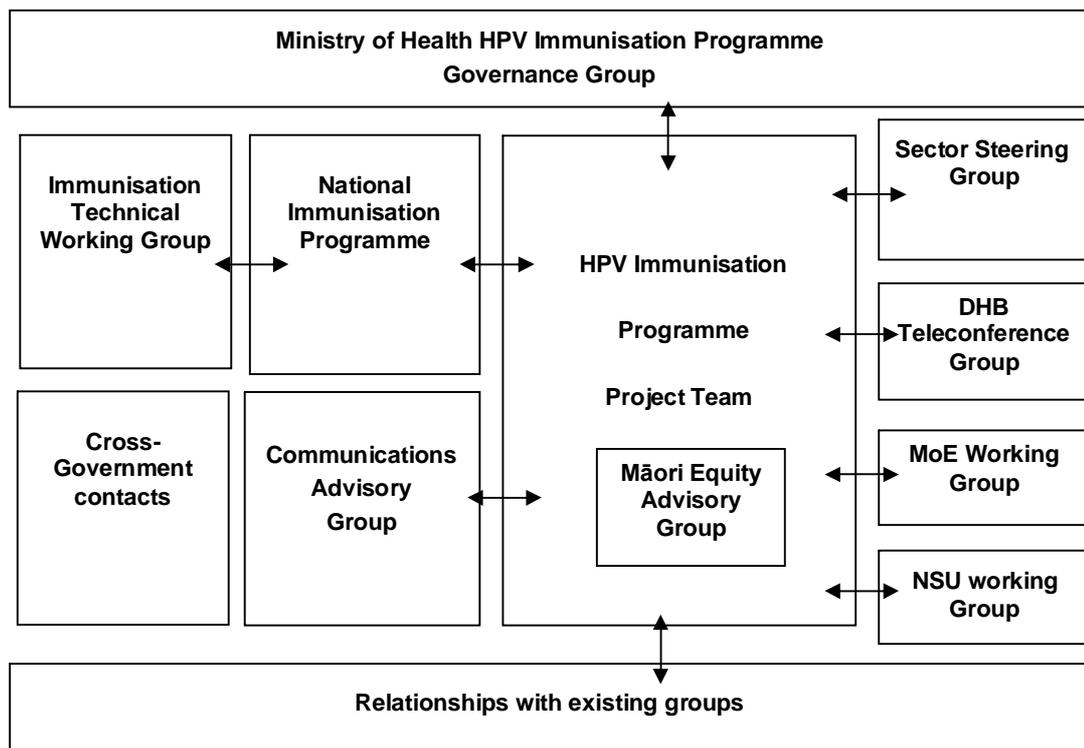
5. Programme Planning and Development

Programme Governance and Relationships

The HPV Project Team consists of a project manager, clinical advisors, communications advisors, analysts, relationship managers, and administrative support. A cross-Ministry governance group provides overall programme governance.

Figure 6 illustrates the key relationships involved in planning the HPV Immunisation Programme. The HPV Programme Project Team works closely with the National Immunisation Programme who in turn receives technical advice from the Immunisation Technical Working Group. The HPV Sector Steering Group advises the Project Team on programme planning and implementation, facilitates information sharing, ensures stakeholders understand the purpose and nature of the programme and aims to build broad-based support for the programme. The Communications Advisory Group will have input into the development of HPV Immunisation Programme resources and consists of members from a range of backgrounds including the health and education sectors, the NCSP, Māori, Pacific, and young women. The programme will also rely on communications with a wide range of existing groups from the health and education and other sectors. Appendix 1 provides additional information on the purpose and membership of the groups.

Figure 4 Diagram of HPV Immunisation Programme Relationships



Māori Equity Advisory Group

As observed from past immunisation programmes in New Zealand, simply making a vaccine available does not bring about equitable coverage for Māori. The implementation of the HPV immunisation programme requires examination from an inequalities perspective or similar disparities will apply to this vaccine (Loring 2007). The HPV Immunisation Programme aims to ensure equitable access for Māori so as to achieve maximal reduction in deaths by cervical cancer, in association with the NCSP screening programmes, and to ensure that the programme does not widen existing health inequalities.

The Māori Equity Advisory Group consists of members who bring expertise in equity issues, media, public health, clinical research, sexuality, health promotion, education and Māori health. This group operates within the understanding that the existence of inequalities between Māori and non-Māori in immunisation coverage or cancer rates is unnecessary, unjust, avoidable, and should not be present in New Zealand. The Māori Equity Advisory Group has been formed to provide advice on programme implementation to ensure that:

1. The HPV vaccine implementation does not further widen existing cervical cancer disparities for Māori, and instead can contribute to eliminating these inequities.
2. The HPV vaccine is implemented, using best possible evidence, to intentionally reduce inequalities between Māori and non-Māori.

The implementation of the HPV Programme will aim to maximise uptake of HPV vaccine by Māori girls and use opportunities to improve access to cervical screening for Māori.

Communication Strategy

Effective communications will be critical to the success of the programme by providing appropriate information in a timely way to support all health, education, and community organisations and groups involved in programme planning and implementation, and to increase community awareness and support individual decision-making. Communicating the HPV vaccine effectively to Māori and Pacific girls, young women and their families/whānau and communities will be critical in ensuring the equitable uptake of the vaccine and, ultimately, the success of the programme.

A HPV Immunisation Programme Communication Strategy has been developed. Key activities identified in the Communications Strategy include the development of health education resources, a public awareness campaign, and identification of stakeholder information needs. At the Ministry of Health there will be a designated spokesperson for formal external communications.

HPV Immunisation Programme communications will:

- support the programme to achieve its goals and objectives, and to ensure communications are particularly effective for Māori and Pacific communities
- recognise and cater to stakeholders' different information needs
- ensure messages are clear, consistent, culturally appropriate and timely
- use existing communication channels wherever possible

- use existing alliances/leaders wherever possible
- dovetail internal and external communications to ensure consistency and timeliness
- tell stakeholders as much as possible as soon as possible to promote two-way discussion
- maintain strong linkages with the National Cervical Screening Programme and promote the need for women to still have regular cervical smear tests even if they have been immunised.

The Vaccine

Two HPV vaccines have been developed, one is bivalent (targeting HPV types 16 and 18) and the other is quadrivalent (targeting HPV types 16, 18, 6, and 11). GARDASIL® (manufactured by Merck Sharp & Dohme (NZ) Limited and marketed in New Zealand by Commonwealth Serum Laboratories Biotherapies (NZ) Limited (CSL)) is the quadrivalent vaccine against HPV types 16, 18, 6, and 11. This vaccine was selected as the vaccine for the national programme as it not only protects against HPV types 16 and 18 (responsible for 70 percent of cervical cancer) but also provides additional protection against HPV types 6 and 11 which, although not implicated in cervical cancer, cause a substantial burden of HPV-related disease. GARDASIL® was consented for use in New Zealand in July 2006. Appendix 3 provides an overview of HPV immunisation policy in other countries.

GARDASIL® is a recombinant vaccine containing highly purified HPV L1 virus like particles (VLPs) from the viral protein shell. VLPs mimic the true structure of the virus and induce an antibody response after vaccination. HPV vaccine is not a live vaccine, does not contain viral DNA, and cannot infect cells or reproduce. The vaccine also contains sodium chloride, very small amounts of aluminium-containing adjuvant to enhance the immune response and stabilisers (histidine and polysorbate 80). The vaccine does not contain thiomersal. The vaccine should be stored refrigerated at +2°C to +8°C and should not be frozen.

Vaccine Efficacy Key Points⁶

- The efficacy of GARDASIL® has been assessed in four placebo-controlled double-blind, randomised clinical studies which together involve 20,845 women 16 to 26 years of age with follow-up ranging from 2 to 4 years.
- The studies showed that in women who have not previously been infected with HPV and who received the vaccine according to protocol, GARDASIL® prevented 97 to 100% of HPV type 16 and 18 related moderate or high-grade precancerous lesions (CIN 2/ 3 or AIS).
- By one month 99.8% and 99.5% of vaccinated individuals developed antibodies against HPV-6, 11, 16 and HPV-18 respectively.
- GARDASIL® was 100% efficacious in preventing vulval intraepithelial neoplasia (VIN) 2/3 or vaginal intraepithelial neoplasia (VaIN) 2/3.
- Studies have demonstrated that the immune response to GARDASIL® in 9 to 15 year old girls is comparable to that observed in the Phase III studies of 16 to 26 year old women.

⁶ See the Medsafe datasheet for more information
<http://www.medsafe.govt.nz/profs/datasheet/g/Gardasilinj.htm>.

- Individuals who are infected with one or more of the vaccine-related HPV types are protected from the other HPV types covered by the vaccine.
- For individuals who had early HPV infection at the time of vaccination the vaccine efficacy was 27% but this was not statistically significant i.e. the vaccine is much less effective.
- GARDASIL® does not prevent disease from HPV types not targeted by the vaccine.
- Five years after GARDASIL® was administered, persisting antibody levels above that achieved after natural infection have been observed.

Vaccine Administration

The recommended schedule for GARDASIL® is three 0.5mL doses administered intramuscularly at zero months, two months after the first dose and six months after the first dose. If an alternate schedule is required, the second dose should be given at least one month after the first dose, the third dose given at least three months after the second dose, and the course completed within one year. The Ministry recommends the standard 0, 2 and 6 month dosing schedule is used. The accelerated schedule should be used on an exception basis only.

Concomitant use of GARDASIL® and other vaccines has not been studied in clinical trials (except for the hepatitis B vaccine); therefore concomitant use with other vaccines is not recommended.

Vaccine Safety

Vaccine safety has been assessed in five clinical trials and assessed by licensing authorities in many countries. No severe side effects have been observed in clinical trials.

Mild side effects are common. Pain at the injection site is the most common adverse event (81%), followed by swelling (24%), redness (23%), bleeding (3%) and itching (3%). Overall, 94% rated their injection-site adverse event to be mild or moderate in intensity. 10% experienced fever. Bronchospasm (wheeziness, reversible tightening of the airways) was reported very rarely as a more serious adverse event. Other reported adverse events in the clinical trials included: lymphadenopathy (swelling of the lymph nodes), dizziness, headache, nausea, vomiting, arthralgia (painful joints), myalgia (muscle pain), fatigue (tiredness), and malaise (a feeling of unwellness).

There have been post-approval reports of fainting (syncope) occurring after vaccination with GARDASIL®. This can follow any vaccination and requires careful observation of the person being vaccinated for at least 15 minutes after administration. Other adverse experiences reported during post-approval use have been reported, however it is difficult to accurately quantify and determine causation. Other post-marketing adverse experiences include: lymphadenopathy, dizziness, headache, nausea, vomiting, arthralgia, myalgia, fatigue, Guillain-Barré syndrome and malaise.

Vaccines are prescription medicines and can only be administered by a medical practitioner, registered midwife, a designated prescriber, a person authorised in accordance with a standing order, or an independent vaccinator authorised by the Director-General of Health or a Medical Officer of Health. Vaccinators must comply with

the standards contained in the Immunisation Standards 2006 (see the Immunisation Handbook 2006).

Appropriate medical treatment should be readily available in case of rare anaphylactic reactions.

Vaccine Procurement, Storage and Distribution

CSL are contracted to supply HPV vaccine until the 30 November 2011. HPV vaccine for the HPV Immunisation Programme will be available to order from August 2008 for the 1 September programme start date.

Environmental Science and Research (ESR) operate the national vaccine store. ESR's responsibilities include ensuring that the quality of vaccines arriving in New Zealand meets the prescribed specifications, distributing the vaccines through vaccine distributor networks, and the ongoing cold chain audit process. The usual distribution networks to health care providers will be used for HPV vaccine.

Information Technology Infrastructure

The NIR is a key tool to help improve New Zealand's immunisation coverage rates by providing quick and easy access to information on a child's immunisation history. The NIR holds immunisation details of New Zealand children born in the last two years and all children who received the meningococcal B vaccine.

The HPV Immunisation Programme requires interface between the National Immunisation Register (NIR), Practice Management Systems (PMS), and where used, the School Based Vaccination System (SBVS). In primary care, PMS record immunisation events. This information is uploaded to the NIR. For immunisations that take place in schools, the school-based vaccination system (SBVS) is used to record data which is then uploaded to the NIR.

The NIR, PMS and SBVS will be configured to record immunisation details for individuals who receive the HPV vaccine through the HPV Immunisation Programme. Parents have the option to 'opt off' if they do not want their children's immunisation information on the NIR.

School roll data was made available to the SBVS during the meningococcal B campaign. This was possible because the meningococcal B epidemic was considered a serious and imminent threat to public health. The Ministries of Health and Education are working together to determine whether school roll data can be released to the SBVS for the HPV Immunisation Programme.

All ethnicity data collection, including that from vaccination consent forms, should be standardised according to the current Ministry of Health Ethnicity Protocols for the Health and Disability Sector Ministry of Health (2004).

6. Programme Implementation

Programme Overview

Eligibility

Girls born on or after 1 January 1990 are eligible for the HPV Immunisation Programme:

1. **From 1 September 2008: Catch-up programme commences**
 - HPV vaccine offered to girls born in 1990 and 1991, delivered by their family doctor, practice nurse, Māori or Pacific providers, youth health services or other health clinics and settings. Girls born in 1990 and 1991 have up until December 31, 2011 to commence the programme.
2. **From 2009: Ongoing vaccination programme commences and catch-up programme continues**
 - HPV vaccine offered to girls in school year 8⁷ (or age 12 if not delivered in a school-based programme) as part of the National Immunisation Schedule, delivered in a school-based programme, or by their family doctor, practice nurse, Māori or Pacific providers, youth health services or other health clinics and settings.
 - HPV vaccine catch-up programme offered to eligible girls born on or after 1 January 1990, delivered by a school-based programme, or by their family doctor or practice nurse, Māori or Pacific providers, youth health and other health clinics and settings. The school-based delivery component will be phased over 2009 and 2010 (see Table 2).
 - Girls have up until their 20th birthday to commence the programme.

Table 2 Proposed Phasing of Cohorts

Year	Year at school	Age range	By birthdate	Delivery
2008	n/a	17-18	1990	Primary care and community-based settings only
	13	16-17	1991	
2009	8	11-13	1997	School based programme begins Primary care and community-based settings continue
	13	16-18	1992	
	12	15-17	1993	
2010	8	11-13	1998	
	12	15-17	1994	
	11	14-16	1995	
	10	13-15	1996	
2011	8	11-13	1999	

⁷ School Year 8 may include girls aged 11 to 13 years.

Planning, coordinating and equitably delivering three doses of HPV vaccine to approximately 300,000 girls and young women over the next 3 years is a significant task for the New Zealand health sector. The focus on equity, the large number of vaccinees, the importance of completing the three-dose vaccine course, and the need to ensure high clinical standards requires extensive planning and coordination, and quality systems and processes. Implementing this programme will be greatly aided by the recent experience of delivering the MeNZB™ vaccine to a much larger population.

Programme implementation will occur at the same time across the country. DHBs will provide leadership in their area and will prepare a local implementation plan for vaccine delivery through school-based programmes and primary care and community-based settings. Each DHB is required to progress towards the national HPV immunisation coverage targets and to demonstrate how the programme in their area will focus on Māori and Pacific as priority populations.

The routine immunisation of girls in school year 8 (or age 12 if not delivered in a school-based programme) as part of the National Immunisation Schedule commences from 2009. The proposed phasing of the school-based catch up programme occurs over two years and aims to reach the oldest of the eligible girls first. It is recommended that the majority of girls and young women be offered immunisation through school-based programmes to optimise coverage and reduce inequalities (CBG Health Research 2006, Ministry of Health 2004). There needs to be a strong focus on gaining and maintaining high coverage rates for the second and third doses. It is recommended that all three doses of the vaccine are provided in the same setting if possible.

Ensuring the Programme is effective for Māori and Pacific women is a key priority for the HPV Immunisation Programme. This requires sustained effort and specific strategies in all phases from policy and programme design, workforce training, implementation, data collection and evaluation (Loring 2007). Refer to Implementation Priorities on page 15.

Funding

DHB allocation of funding is determined predominantly by the Population Based Funding Formula, weighted by ethnicity, deprivation level, and unmet need, with additional funding aimed at increasing awareness and vaccination uptake by Māori, Pacific and other populations who may also be at higher risk of cervical cancer or for whom screening programmes are less accessible (such as Asian populations, or refugee or migrant populations). The immunisation benefit paid to primary care services will be the same as that paid for other National Immunisation Schedule vaccines.

To assist programme implementation funding will cover:

- DHB project management of the district programme
- school-based vaccine delivery
- primary health care and community-based delivery of vaccine for young women not attending school, and for individuals who prefer immunisation in other settings
- whānau engagement
- vaccinator training and information sessions
- community awareness raising for Māori, Pacific and other populations

- communications.

Schools will also receive a one-off school coordination fee to assist with additional costs incurred, for example, hiring extra staff on vaccination days, heating of additional rooms.

Relationship Management

The programme has four Ministry of Health relationship managers whose task is to provide a single point of contact within the Ministry for each DHB and to allow regular and timely information sharing and the ability to address any concerns and requirements early. Relationship managers will:

- provide information on programme funding and service specifications
- facilitate programme information provision to DHB Immunisation Steering Groups
- provide and support the completion of a Project Implementation Plan (PIP) template to assist DHBs to assess readiness and potential risks in delivery of the programme
- approve completed PIP against standard quality guidelines to ensure national consistency and quality of the programme while allowing for local requirements and differences
- facilitate opportunities for DHB's to share information to assist with preparation of the PIP including local and national innovation and ideas
- establish regular contact with DHBs to ensure timely information sharing.

The Ministry of Education is also working with the Ministry of Health in programme planning, to ensure effective communication with schools and minimal disruption to school operations. This joint-agency working group will support schools and will maintain open communications with education sector groups as programme planning and implementation progresses.

Resource Development

National health education and programme resources (for parents, girls and young women, schools, and health providers) and a social marketing campaign will support the programme's implementation.

Methods of Service Delivery

The Ministry of Health will develop resources to provide a nationally consistent approach to implementing the HPV Immunisation and to support DHBs in the planning, preparation and implementation of the Programme. All DHBs will develop their own Project Implementation Plan (PIP) for their district, taking into account the local context and the particular needs of their population

Local programme development requires Māori and Pacific representation and consultation with Māori, Pacific and Asian communities, other community stakeholders, schools and health providers. DHBs are required to work collaboratively with Primary Health Organisations (PHOs), Māori and Pacific providers and other organisations to develop culturally appropriate and effective strategies to ensure the programme is effective for the priority populations and to explicitly work towards reducing inequalities.

The Health Equity Assessment Tool (HEAT) can be used to examine the impact of potential strategies on inequalities.

School Based Programme

The Ministry of Health recommends a school-based immunisation programme as the preferred service delivery model for eligible girls attending primary, intermediate and secondary schools. There are successful national and international experiences of school/institution-based mass immunisation programmes achieving high coverage rates resulting in reduced inequalities (CBG Health Research 2006, Ministry of Health 2004).

Delivering a school-based immunisation programme is a substantial logistical challenge and requires significant partnership between schools and DHBs. The programme requires the support of the Ministry of Education and individual schools, principals, teachers, Boards of Trustees, whānau/school support groups and the wider community.

School-based services may be delivered by public health nursing services on a similar basis to the existing school-based Year 7 immunisation programmes. Care is required in vaccination scheduling to ensure the programme fits around the needs of the school as much as possible and ensures the delivery of three doses as recommended. Follow up clinics will be required after each dose to ensure coverage for children who have missed immunisation days. These may be scheduled at the same time as other immunisation days to minimise school disruption. DHBs and schools will need to work together to determine the most appropriate methods of providing follow up clinics depending upon the needs of the school and the needs of the population.

To ensure that the school based programme will be delivered in a consistent, safe and effective manner, DHBs will be required to plan and deliver their school based programme in accordance with the Immunisation Standards as outlined in Appendix three and four of the Immunisation Handbook and with any subsequent information provided by the Ministry of Health (Ministry of Health 2006).

Community-based and Primary Care Programme

Primary health providers and other community based services have a key role in the delivery of this programme, particularly for older eligible girls and young women, those not attending school, and for individuals who prefer immunisation in primary care and other settings. DHBs will identify the range of primary care providers, youth specific services, Māori and Pacific providers, family planning clinics, and sexual health clinics who may actively promote and/or deliver HPV immunisation. All service providers administering the vaccine must be trained, meet cold-chain and clinical safety standards, and be able to interface with the NIR. Processes for follow-up will be required using recall systems and individual contact.

DHBs will co-ordinate primary health and other community-based providers, and will need to work closely with them to:

- engage their full support
- actively promote the vaccine
- ensure the service is responsive to the needs of priority populations

- ensure there is easy access to the vaccine
- link with national and community awareness-raising activities.

It is essential for primary health care providers and other community-based providers to build on local and national awareness-raising campaigns and activities by proactively offering the vaccine.

Reaching youth

Young women access health services in a range of settings including school-based health clinics, youth community-based health centres, sexual health services, primary care and Māori and Pacific providers. There is strong evidence to show that young people have a preference for youth-specific health services, and that utilisation of health services increases when young people have access to appropriate services.

DHBs will develop specific strategies to ensure that the immunisation programme reaches all young women, including those who are not attending school. This is also particularly important in order to achieve equitable delivery, as Māori are over-represented in this group. Efforts to reach young women should also dovetail with other youth health activities currently underway or planned, such as the establishment of school-based health services in Alternative Education settings (for young people aged 14 to 16 years), Teen Pregnancy Units and in decile one schools in 2009, and expanding to decile two and three schools over 2010/11. There is also work occurring to improve the delivery of health services to a particularly vulnerable group of young people who are in Child Youth and Family and Youth Justice residences, and for young people coming into the care of Child Youth and Family.

Offering the vaccine programme where young people come into contact with agencies (i.e. opportunistic immunisation), a trained workforce, and effective communication strategies will be crucial to reaching this population. For all communications, existing distribution services should be used whenever possible, such as bulletin boards and local newsletters.

A variety of health services may be involved in promoting or providing HPV immunisation services to youth, including primary care providers, Māori and Pacific health providers, youth specific services including “one-stop shops”, sexual health services, and student health services at universities and other training organisations. Family planning clinics and after-hours clinics may be able to offer vaccinations. The Ministry of Health will be working with DHBs to confirm alternative immunisation service providers.

Innovative Local Solutions

Existing immunisation providers will be the main vaccinators involved in this programme. However, DHBs should consider innovative alternative delivery options particularly to reach Māori outside of the school system. Local discussion between DHBs, Primary Health Organisations, and community organisations such as Māori and Pacific organisations, youth groups, church groups and sports’ associations will offer further opportunities and insight into the range of sites where HPV immunisations could be delivered that will be effective for young women. ‘Innovative delivery’ solutions should be developed in collaboration with local primary health care providers. Ensuring vaccine control and cold chain management and clinical safety standards is essential, and

systems are required for follow-up and recall and ensuring data can be uploaded to the NIR. Strategies may involve the use of community-based clinics, marae, community rooms such as sports venues and church halls.

Informed Consent

Informed consent is important in the provision of health services. Practitioners have ethical and legal obligations relating to informed consent, governed by the Code of Health and Disability Services Consumers' Rights and common law. Consent relating to children and young people under the age of 16 years is complex. For further information relating to informed consent in primary care and school-based settings see section 2.2 of the Immunisation Handbook and Consent in Child and Youth Health (Ministry of Health 1998).

Key points:

- the function of consent in the health context is to protect an individual's rights to bodily integrity and autonomy by allowing that person to determine what is done to him or her
- consent must be freely given, informed and given by a person who is competent to do so
- children/young people should be informed and involved in decisions affecting themselves at a level appropriate to their maturity and understanding, regardless of their capacity to consent
- all staff should be well informed and guided by policies that comply with legislation and good practice.

Consent requirements for school-based immunisation programmes are different from those that apply to vaccinations delivered in primary care settings as parents or guardians are unlikely to be present. Young people over the age of 16 can consent to vaccination if they are competent to do so. For school-based immunisation, written consent is required from the parents or guardians of students under the age of 16 years. However, special care is required in the situation where a young person under 16 years of age chooses to be vaccinated and is deemed competent to do so, but his or her parent or legal guardian has not consented. Every effort should be made to encourage the young person to involve his or her parent or guardian in their decision. In 2001, the Health and Disability Commissioner provided an opinion of a child's consent to a vaccine, whereby the Commissioner was satisfied that a 14 year old was competent to give informed consent for an immunisation event. More details of this opinion can be found on the Health and Disability Commissioner website www.hdc.org.nz (Case: 01HDC02915).

The Ministry of Health will work with the Ministry of Education to develop and pretest for the school-based programme a culturally appropriate consent form which is clear, easy to understand, and simple to complete. The consent form and the processes relating to consent are essential for the success of the programme and will be developed with advice from immunisation providers, the Ministry of Education, Māori and Pacific communities and young women. The consent form will form the written clinical record for each dose.

It is essential for parents and guardians to have appropriate information and sufficient time to complete the consent process. Non-returned consent forms will require follow up and special consideration as appropriate, particularly for Māori, and may involve strategies relating to whānau engagement. A study of one DHB in 2005 on year 7 vaccination found that coverage for Māori was limited mostly by the fact that over a third did not return a consent form (Loring 2007). Once consented, Māori were slightly more likely than non-Māori to actually receive their vaccinations.

Workforce Training

HPV is a new vaccine (rather than a new combination of existing antigens or vaccines) which is to be added to the National Immunisation Schedule. Vaccinators are recommended to attend a HPV vaccine training session to ensure adherence to immunisation standards and the delivery of accurate and appropriate information. In particular, authorised independent vaccinators will be required to attend training on HPV vaccine in order to provide the HPV Programme in schools (or alternative settings as determined by the DHB and Medical Officer of Health). Additional training may be required for public health nurses in South Island DHBs (other than Nelson-Marlborough DHB) for school-based delivery and will require approval by the appropriate Medical Officer of Health.

Key stakeholders and “information sharers” will also require information on the HPV immunisation programme in order to provide local leadership and generate awareness of and support for the programme. Clinical leaders and other health professionals in DHBs should attend an information session prior to the commencement of the programme. This may include Medical Officers of Health, physician and nurse leaders and educators in areas such as primary care, public health, sexual health, youth health, women’s health, and infectious disease. A variety of different potential “information sharers” such as youth health promoters, sexual health promoters, and Māori and Pacific community health workers should also attend appropriate HPV Information sessions before the programme begins.

Monitoring and Evaluation

Programme Evaluation

The implementation of the HPV Immunisation Programme is building on many of the lessons and experiences from the Meningococcal B immunisation programme. It is important that the HPV Immunisation Programme is evaluated to provide information for future vaccination programmes.

A programme evaluation strategy is being developed for the HPV Immunisation Programme. The objectives of the evaluation strategy are to provide:

1. A feedback and review mechanism that will be used during roll-out to improve the programme and keep the programme focused.
2. An overall assessment of how well the programme achieved its goals, objectives and implementation priorities.

In particular, the evaluations must include a specific and separate assessment of the programme's effect on Māori, in recognition that Māori are not adequately represented by analyses based on the total population. The results of any evaluations should be disseminated widely to Māori and to health professionals to improve the programme.

Measuring immunisation coverage using data from the NIR will be the key method of assessing the effectiveness of the programme, and in determining whether the programme was delivered equitably. Over time the effectiveness of the programme may be assessed by examining changes in the rate of abnormal cervical smears detected by screening and the need for treatment. Reductions in the number of new cases of genital warts may also be observed through sexually transmitted infection surveillance coordinated by ESR. Over a longer period of time effectiveness will be gauged by reductions in cervical cancer registrations and deaths.

Safety Monitoring

Surveillance for adverse events following immunisation in New Zealand is conducted by Centre for Adverse Reactions Monitoring (CARM). Vaccinators are required to promptly report to CARM any unexpected or severe reactions or significant adverse events following immunisation (see the Immunisation Handbook 2006 for further information).

Impact on Cervical Screening

The National Cervical Screening Programme (NCSP) is planning and conducting research to investigate the impact of HPV immunisation on the NCSP. A working group has been established consisting of members from the HPV Project team and the NCSP to proceed with this work in a coordinated manner. The HPV immunisation programme is explicitly promoting the need for vaccinated women to receive regular smears through the NCSP so that screening uptake will not be adversely affected. Screening uptake is monitored by the NCSP.

Roles and Responsibilities

Ministry of Health

The Ministry will be liaising with different stakeholder groups to guide the development and delivery of the programme. The Ministry will undertake to complete the following tasks at a national level:

- HPV policy and governance
- national co-ordination of the national programme
- if required, variation of Section 88 / PHO agreements and DHB contractual arrangements undertaken in conjunction with DHBs
- purchase of the vaccine
- national logistics related to ordering, shipping, storage and nationwide delivery of the vaccine
- development of a national communication campaign
- funding primary health care, school-based and whānau engagement programme delivery

- providing vaccinator training and education resources
- funding initiatives for the programme promotion and awareness-raising among young people not attending school or tertiary institutes.

District Health Boards

DHBs will complete the following tasks at a local level:

- planning, preparation and project management of the roll out in the DHB regions, including the establishment of a steering group, consulting with stakeholders and the provision of a Project Implementation Plan (PIP)
- development of strategies that will reach the target populations
- co-ordination of programme implementation, including the primary health care and school-based programmes
- development and management of a local communications campaign
- development and delivery of whānau engagement
- facilitation of training for vaccinators including providing training venues
- facilitation of training and information sessions for other health professionals and information sharers, including providing suitable venues
- working with the Ministry to manage and control vaccine allocation to providers.

Table 3 Roles and Responsibilities for Programme Delivery

Ministry of Health	District Health Board
<ul style="list-style-type: none"> • Ensure contracts are in place with DHBs to offer vaccine to the eligible population and reach coverage targets according to the programme objectives. • Provide a national framework to ensure consistency of delivery throughout the country. • Establish a national timetable for programme delivery and vaccine eligibility. • Work with the Ministry of Education to communicate effectively with schools and to seek to minimise any disruption to school operations. • Monitor nationally to ensure that the populations most at risk of cervical cancer (Māori, Pacific) are fully immunised. • Fund the development and provision of whānau engagement immunisation services • Develop and deliver a national communications strategy and operational resources. • Fund initiatives to promote the programme to and raise awareness among young people not attending school or tertiary institutes. • Fund information sessions for health professionals (vaccinators and information sharers) and vaccinator training courses and updates for public health nursing services. • Organise and fund vaccine supply and delivery to providers' premises within DHB regions. • Provide the IT system (NIR) to monitor progress of the programme within each DHB. • Provide computer software to aid in the recording of large volumes of vaccination details in schools (SBVS). • Develop a process to get vaccination data from primary health care providers onto the NIR where NIR-compatible PMS software is not in place. • Monitor and advise on national progress of the programme. 	<p>Primary health care programmes</p> <ul style="list-style-type: none"> • Work with primary health care providers and the local community networks to deliver the programme. • Ensure immunisation services provided are accessible to Māori, Pacific, Asian and low-income families. • Offer vaccine to the eligible population and reach coverage targets. • Actively promote HPV immunisation. • Link awareness-raising activities to immunisation. • Involve district immunisation facilitators and local immunisation co-ordinators. • Monitor programme uptake locally. • Ensure cold chain standards are adhered too. <p>Primary Health Organisations</p> <ul style="list-style-type: none"> • Plan and coordinate with general practices. <p>School-based programme</p> <ul style="list-style-type: none"> • Work with schools for programme planning and to minimise disruption. • Ensure efficient delivery of the school-based immunisation programme. • Initiate follow-up clinics for girls who have missed a vaccination and refer to primary care. • Monitor programme uptake locally. • Liaise with the local NIR Administrator to ensure successful installation and operation of the SBVS has occurred. • Ensure adherence to cold chain standards. <p>Whānau engagement</p> <ul style="list-style-type: none"> • Identify the location of the high-risk population to be reached by the immunisation programme. • Scope the existing available resources and key players including Māori and Pacific providers, district immunisation facilitators and local co-ordinators. • Develop strategies for effective service delivery based on existing local services and networks. • Obtain agreement on the planned delivery models from the DHB general managers of Māori and Pacific health. • Monitor and report on service implementation.

Abbreviations

AIS	Adenocarcinoma in situ
CARM	Centre of Adverse Reactions Monitoring
CIN	Cervical intraepithelial neoplasia
DHB	District Health Board
ESR	Institute of Environmental Science and Research
HPV	Human Papillomavirus
NCSP	National Cervical Screening Programme
NIR	National Immunisation Register
PHO	Primary Health Organisation
PIP	Project Implementation Plan
PMS	Patient management systems
QALY	Quality adjusted life year
SBVS	School-based vaccination system
STI	Sexually transmitted infection
VLPs	Virus like particles
VIN	Vulval intraepithelial neoplasia
VaIN	Vaginal intraepithelial neoplasia

Appendix 1 - Project Governance and Sector Steering Groups

Governance Group

The role of the HPV Governance Group (the Group) is to provide governance of the HPV programme and to advise the Project Manager on any issues relating to, programme planning, preparation and implementation, performance management, and budget and risk management. The Governance Group consists of the following ten Ministry of Health members:

- Director-General representative or delegation
- Group Manager, Population Health Protection
- Deputy Director-General, Māori Health Directorate
- Chief Advisor Pacific Health
- Chief Financial Officer
- Director Public Health
- Deputy Director-General, Population Health Directorate
- Funding and Performance Directorate representative
- Communications Manager.

Sector Steering Group

The role of the HPV Sector Steering Group is to provide advice with intent to work inclusively. The Group is responsible for:

- advising on the planning and development of the HPV Programme
- information sharing and consultation
- identifying constraints
- ensuring stakeholders understand the purpose and nature of the programme
- building broad-based support for the programme.

The Sector Steering Group consists of a representative from the following organisations:

- Two Ministry of Education representatives
- New Zealand School Trustees Association
- District Health Board Lead Chief Executive Officer for Primary Health
- District Health Board New Zealand Service Improvement Group
- Te Puni Kōkiri - Ministry of Māori Development
- Ministry of Pacific Island Affairs
- Royal New Zealand College of General Practitioners
- Royal Australian and New Zealand College of Obstetricians and Gynaecologists
- New Zealand Nurses Organisation -
 - lead Practice Nurse
 - lead Public Health Nurse
- Director of Nursing
- Immunisation Advisory Centre
- Ministry of Youth Development
- Three External Māori Health representatives
- Two External Pacific Health advisors

- Family Planning Association
- NZ Sexual Health Society
- Ministry of Health
 - Cancer Control Council Secretariat
 - National Screening Unit Cervical Screening Programme
 - Child, Youth and Maternity
 - Primary Care Policy
 - National Immunisation Register

DHB Teleconference Group

The role of the HPV DHB Teleconference Group (the Group) is to share ownership of the HPV programme by participating in the planning and implementation of the programme through:

- information sharing and consultation
- overseeing the execution of the programme
- building broad-based support for the programme.

The DHB Teleconference Group will consist of representatives from the 21 DHBs and this group will teleconference fortnightly, until the Group notifies otherwise.

Ministry of Education Working Group

The Ministry of Education Working Group will consist of members from the HPV Programme project team and four members from the Ministry of Education. The Working Group will support schools and will maintain open communications with education sector groups as programme planning and implementation progresses.

National Screening Unit Working Group

The National Screening Unit (NSU) Working Group will consist of members from the HPV project team and the National Screening Unit and will meet regularly to:

- share information relating to HPV and the prevention of cervical cancer and programme development and monitoring
- ensure the communications messages for both programmes are aligned with each other
- monitor developments nationally and internationally to assist in determining the optimal screening regime for vaccinated cohorts.

Appendix 2 - International HPV Immunisation Policy

The following table provides an overview of HPV immunisation programmes in comparable nations, from announcement to implementation.

Table 4 Summary of HPV immunisation policy internationally

	Australia	Canada	United Kingdom	USA
National programme introduced	In November 2006, the Australian Government announced funding for the HPV vaccination program to commence in all States from April 2007.	Funding available from 2007/08 Budget. The federal government would make funding available for use of the vaccine by the provinces and territories. To date State uptake by Ontario, Prince Edward and Nova Scotia has occurred.	Campaign was announced in October 2007. It begins in Sept 2008, in Scotland. with girls aged 16 to 18 years. England and Wales will commence in 2009 with girls in school years 12 and 13, and then school years 11 and 12 will be offered the vaccine from 2010.	No national programme. Legislation required in each state. Advisory Committee for Immunization Practices recommended that this vaccine be included in the Vaccines for Children Programs, (provides vaccines for free for children up to the age of 18 who are Medicaid eligible, uninsured, who have – who are American Indian or Native Alaskan) It covers children.
Aim	Cancer Prevention	Cancer Prevention	Cancer Prevention	Cancer Prevention
Vaccine	GARDASIL®	GARDASIL®	decision not available until June 2008	GARDASIL®
Cohort age group	12-13 year old girls, in school based programme.	Grade 8 Ontario, from Sept 07, Grade 7 Nova Scotia, from Sept 07	12-13 year old girls from September 2009	Recommended for 11-12 year old girls.
Vaccination location	School based	School based	School based	
Catch up school-age group	13-18 year old girls Largely school based	Girls between ages 9- 13 years	Girls aged 16-18 years from Sept 2009, 15-17 from Sept 2010.	13-26 year olds recommended
Catch up other	Up to 26 years old GPs	Females aged 14 to 26 should also be vaccinated.		Permissive use of the vaccine down to age nine and up to age 26.
Professional Body Supporting Programme	Decision to support the programme follows the advice of the Pharmacy Benefits Advisory Committee (PBAC).	The National Advisory Committee on Immunization (NACI) of the Public Health Agency of Canada has recommended the vaccine be given.	This decision follows the advice of the Joint Committee on Vaccination and Immunisation (JCVI) which, is based on a detailed review of evidence surrounding HPV vaccination.	Advisory Committee for Immunization Practices (NCIP) recommended the routine use of the HPV vaccine.

Appendix 3 - Key Findings from the MeNZB™ Programme

Although there are differences in the MeNZB™ and HPV immunisation programmes in terms of the nature of the disease, the two programmes are similar in their implementation requirements and the need for multiple agencies and professional disciplines to work together.

This section summarises key lessons from the roll-out of the MeNZB™ immunisation programme (CBG 2006, Loring 2007, Wyllie and Akroyd 2005). The programme was predominantly school-based (5 to 17 year olds). Primary care provided immunisations to children less than five years of age and older children not in schools. Overall, the campaign immunised 80% of under 20 year olds with three doses of MeNZB™. Lower coverage was achieved for Māori, in all age groups. There was low immunisation coverage for 18-19 year olds.

The MeNZB™ programme achieved some encouraging coverage rates considering New Zealand's poor historical vaccination coverage, particularly for Māori. However, despite the intensive and expensive efforts, the programme still fell short of its national targets, with the 90% coverage target only being met for Pacific children aged 5-17 years. For a programme intentionally targeted from the outset at Māori and other groups with the highest need, disparities in vaccination unfortunately persisted, suggesting that even more needs to be done in future programmes if vaccination disparities for Māori are to be avoided.

Vaccine uptake was higher in school based programmes compared to primary care, even though primary care had the assistance of outreach services. Factors that led to the success of the school based programme include:

- a captive audience
- parents were comfortable with school-based vaccinations (in North Island and Nelson-Marlborough DHBs)
- it was easy for parents to have children immunised at school.

Primary Care

- **Space.** Many practices reported problems with finding enough space to accommodate the people coming in for vaccinations, especially with the 20 minute post-vaccination observation period. Many parents stated that a decision for non-immunisation was because they did not want to expose their children to sick patients while in the waiting room.
- **Staffing levels.** Finding sufficient staff was a concern. Forty one percent of practices reported taking on extra staff to cover the extra work associated with MeNZB™.
- **PHO enrolment.** The level of enrolment in PHOs varies between regions. This can affect coverage rates. During the MeNZB™ rollout Waitemata DHB believed that around 46 percent of Māori aged under five were not enrolled with a PHO and did not receive precalls and recalls because there were no known contact details for them.

- **Provider education.** The level of support a programme receives from primary care is critical to its success. Health professionals play an important role in influencing community perceptions of a vaccine and almost a quarter of practices lacked confidence in the MeNZB™ vaccine's effectiveness.
- **Primary care service planning.** Unlike school-based programmes, GPs and PHOs were not required to provide plans for how they were going to develop and deliver their MeNZB™ services. The evaluation recommended that practices should ensure they implement strategies that are likely to increase coverage.
- **Access.** Access to primary care services influenced MeNZB™ vaccine uptake. Parents reported that primary care hours were not suitable during the week. Many had difficulty arranging transport and childcare.

School-based Programme

- **Parent support.** Most parents were happy for their children to be vaccinated at school, with fewer Māori parents (6%) declining school vaccination than parents overall (8.5%).
- **Absenteeism.** Ten percent of children are absent from class on any given day, meaning that catch-up clinics are essential to reach target coverage. Illness and absence were the most common reasons for not receiving 2nd or 3rd vaccinations. Nurses reported problems with older students, who had been consented but were “unlocatable” at the time for their vaccination.
- **Consent forms.** High numbers of school based programme consent forms were returned (most within two weeks). Māori had the highest rates of consent forms returned at 95 percent. The 3 dose coverage rate for school aged children (5-17 years) was higher than for other age groups (85.7% versus 75.5%). The school based programme achieved the highest coverage for Māori (82.2%), although this was lower than the coverage achieved for Pacific (96.8%) and Other (85.5%) ethnicities. The gap between Māori and other ethnicities was much narrower amongst school aged children than in the other age-groups. Despite efforts to make the consent form as simple as possible, many parents felt it was too complicated. Significant field testing is recommended for future forms.
- **Existing relationships.** As public health nurses already had existing relationships with the schools they were able to interface with school staff, students and some parents, which enhanced the ease of working with schools. DHBs and public health nurses need to be responsive and adapt to the individual school, and there needs to be early dialogue with each school to determine how to work most effectively with them.
- **Staffing levels.** There was a need to be able to provide sufficient public health nurse staffing to cover sicknesses and other absences as changing timetables with schools at short notice caused major problems and loss of goodwill at the time.
- **Information provision.** Many parents felt they did not have enough information or time to make a decision about consent, and would have appreciated information evenings. Information days at schools were useful in engaging the community and providing parents with information on the vaccine.

- **Information systems.** The School Based Vaccination System (SBVS) supported vaccine delivery as it linked with the National Immunisation Register (NIR), which messaged with general practitioners Practice Management Systems (PMS). These programmes would be useful for further immunisation programmes.

Communications

- **Media.** The media campaign was essential to providing information on the vaccination, and educating people (neutrally) on the risks and benefits of the vaccine. The impact of negative media during the rollout was reduced by responding quickly with positive information.
- **Access to information.** More information needed to be readily accessible for the public, media and health professionals (for example, more information online, more access to the MoH spokesperson).
- **Methods to promote vaccination demand amongst Māori.** The local community awareness-raising activities were considered to be most useful when targeted with Māori or Pacific communities, and delivered by people with existing links with those communities.

Relationships

- **Relationship managers.** Clear and timely communication between DHBs, the Ministry and schools was essential. Relationship managers provided a single point of contact within the Ministry for each DHB and allowed regular and timely information sharing and the ability to address any concerns and requirements early. Schools required information early to take the MeNZB™ programme requirements into account when planning the school year.

Reasons for Non-immunisation

- Over a third of public health nurses felt that issues of uncertainty around a new vaccine were important factors in parents giving consent. Other reasons suggested for not vaccinating included lack of knowledge, needing more time to make a decision, and the complexity of the consent form.
- There was low immunisation coverage for young people aged 18-19 years. Evaluation found that this group were aware of the disease but did not believe they were at risk. Additionally, the campaign focused on younger children, and there were additional barriers to completing the vaccine and require easy access options like group vaccination opportunities.
- Māori were just as likely as other ethnicities to believe that MeNZB™ vaccine was effective, but significantly more likely to believe the vaccine was unsafe.
- Parent feedback identified a variety of concerns as reasons for not immunising their child, including a dislike of needles, concerns about the use of a new vaccine, concerns about side effects, beliefs that immunisation is not needed, preference for herbal alternatives, and concerns about the duration of protection provided by the vaccine.

Implications for Māori for the HPV Programme

As quoted in Loring's Masters of Public Health dissertation (Loring 2007) "*It is important to recognise that there are significant differences between meningococcal B and HPV which could make it difficult to achieve the same coverage with HPV vaccine as was achieved with MeNZB™. HPV lacks the urgency and immediacy of meningococcal disease and HPV/cervical cancer may be less well known and talked about within families and communities. Because HPV infection is linked to sexual activity, there is the potential to invoke moral or religious objections as seen in Australia and the USA. There is also some public sensitivity to mass vaccination campaigns in light of some adverse publicity regarding MeNZB. A well designed, pro-active communications strategy for the HPV vaccine is even more critical if these factors are to be overcome.*"

The MeNZB™ National Rollout Advisory Group made the following specific recommendations to obtain good vaccination coverage for Māori in future programmes (as quoted in Loring 2007):

- invite the Māori sector through iwi to be part of the planning of how to mobilise Māori support
- engage key influencers of Māori community in early planning stages
- have timeframes that accommodate Māori protocols for accessing their population
- give DHBs an outlined "step by step" plan for Māori engagement
- build capacity of Māori providers, and ensure that they receive contracts and resources at outset of campaign
- resource outreach services as the primary means of reaching Māori harder-to-reach families, rather than as a back-up to primary care
- provide alternative vaccination settings (e.g. community, home) for Māori families who do not wish to engage with general practices
- encourage outreach and community awareness-raising providers to offer vaccination at the time of awareness-raising
- guarantee standard ethnicity recording across all information technology systems
- appoint Māori medical representatives, committed to the campaign work, to the advisory boards
- find the right internal Ministry Māori advisor to ensure strong internal team relations throughout the programme
- consider the use of incentives to appeal to each age group.

As the bulk of international evidence relates to children and adults, there remain significant unanswered questions regarding the applicability of this evidence to the adolescent age-group. Due to the less frequent primary care attendance of this age-group, it is likely that school-based delivery would be a more successful option, especially for a three dose vaccine such as the HPV vaccine. Evidence from the MeNZB™ campaign suggests that immunising in late childhood or very early adolescence would achieve more equitable rates for Māori than immunising older adolescents, as Māori coverage declines more steeply than non-Māori, from 12 years of age onwards (Loring 2007).

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