Memo

Date: 15 November 2018

To: Ashley Bloomfield, Director-General

From: William Rainger, Acting Deputy Director-General, Population Health and Prevention

Subject: Group W Meningococcal Disease in Northland and New Zealand

For your: Decision

Purpose

The purpose of this memo is to inform you that the incidence of group W meningococcal disease (Men W) in Northland among Māori now meets the definition for a community outbreak. The memo will outline the options on how to respond to this outbreak, including the preferred option and request your approval to proceed with this option.

Summary

There has been a significant increase in group W meningococcal disease (Men W) in New Zealand since the second half of 2017. The Northland District Health Board population has been most affected by this increase with the rate of group W meningococcal disease in the Northland population for all ethnicities under 10 years now 12.3 per 100,000 population, and the rate for Māori under 10 years and 20 years 23.2 and 12.4 per 100,000 population respectively.

The Ministry convened a technical advisory group (TAG) to provide advice on a response to the high rates in Northland. The TAG advised that these rates now meet the definition for a community outbreak and recommended that an immunisation response should be implemented in Northland as a priority.

The Ministry has worked with PHARMAC and Northland DHB to investigate options for procuring vaccines and implementing a targeted immunisation programme.

Based on the TAG advice, and discussions with PHARMAC and Northland DHB, the Ministry has identified five possible options.

The preferred option is to implement a vaccination campaign to target secondary school students and the age group population of nine months to four years.
Background

Overall trends in meningococcal disease in New Zealand

There has been a steady increase in the number of meningococcal cases (all serotypes) in New Zealand since 2014.

- 2014 – 45 cases
- 2015 – 64 cases
- 2016 – 75 cases
- 2017 – 112 cases
- 2018 – 99 cases (year to date).

Although group B serotype remains the most prevalent group, there has been an increase in the number of cases of group W meningococcal disease in NZ since the second half of 2017. Prior to 2017, there were zero to six cases a year. In 2017, there were 12 cases reported, including three deaths, and in 2018 (as of 13 November) there have been 25 reported cases, including six deaths. Cases have been reported in 10 DHBs across New Zealand with the largest number reported from Northland (seven cases) followed by three cases in each of Waitemata, Auckland and Canterbury DHBs.

Similar increases of group W meningococcal disease have been seen in other countries, including the UK and Australia. The particular strain of group W meningococcal disease causing this spread has been seen in other countries, is associated with a high mortality, and affects all age groups, though the adolescent/young adult population and the very young are usually the most affected once the numbers increase.

Northland has previously been affected by outbreaks that have required immunisation responses such as serogroup C meningococcal in 2011 and mumps in 2017. Māori have been most affected by group W meningococcal disease in Northland, which reflects overseas experiences where vulnerable populations have been most affected, such as Torres Strait Island indigenous populations from Australia.

Group W meningococcal disease in Northland

Seven of the 25 cases of group W meningococcal disease in 2018 have occurred in Northland, including three deaths. These cases are distributed across the DHB region and with an age range from 11 months to 61 years. During September and October, there were four cases of group W meningococcal disease in Northland, with two deaths. Three of the four cases were aged under 20 years.

The rate of group W meningococcal disease in the Northland population for all ethnicities under 10 years is now 12.3 per 100,000 population, and the rate for Māori under 10 and 20 years is 23.2 and 12.4 per 100,000 population respectively. These rates now meet the definition for a community outbreak as set out in the Communicable Disease Control Manual (three or more confirmed cases of the same strain (group and serotype) within a 3-month period and an age-specific incidence or specific community population incidence of approximately 10 per 100,000, where there is no other obvious link between the cases).

Ministry response to the increased numbers

On 6 November 2018, the Ministry provided advice to general practitioners and emergency departments advising on the increasing rates of meningococcal disease, in particular the group W strain, the high case fatality rate associated with group W meningococcal disease, and the atypical presentation of the disease. The Ministry also issued a general media release to increase community awareness around meningococcal disease, in particular the group W strain, and to provide advice around seeking medical urgent treatment.

The Ministry of Health also convened a technical advisory group (TAG) to provide independent expert advice on how to respond to the current situation.
The TAG met on 8 November 2018 and was comprised of members of the immunisation subcommittee of the Pharmacology and Therapeutics Advisory Committee (PTAC). The TAG agreed that there was a community outbreak of group W meningococcal disease in Northland and made the following recommendations:

- that a targeted Northland immunisation programme was the most appropriate and effective response
- that the priority groups for an immunisation response were as follows:
  - 14-19 year olds
  - under five year olds (the lower age limit would be nine months if *Menactra* vaccine was used or 12 months if *Nimenrix* vaccine was used) possibly all others under 20 years of age
- that both *Menactra* and *Nimenrix* vaccines would be suitable for use in the immunisation response.

Although the TAG considered that Northland was the immediate priority given the community outbreak, because of the high virulence of the circulating strain of group W *Neisseria meningitidis* and the national increase in rates, consideration needs to be taken into planning and carrying out a national ACWY vaccination programme to reduce the spread of group W meningococcal disease prior to any potential changes to the 2020 immunisation schedule.

Taking into account the TAG recommendations, the Ministry has worked with PHARMAC and Northland to investigate options for procuring vaccines and the feasibility of implementing a targeted immunisation programme.

PHARMAC has advised that 20,000 vaccine doses would be potentially available for Northland to use by mid-December 2018. Confirmation on the availability and funding of these vaccines is still subject to approval through PHARMAC’s normal processes. The vaccines will also need to be considered by Medsafe as compliant with the Medicines Act 1981 as per standard practice.

Consideration also needs to be given to the urgency of any immunisation response. The primary purpose of an immunisation programme in an outbreak situation is to quickly interrupt the chain of community transmission. This is best achieved by vaccinating adolescents with the highest rates of meningococcal carriage. The *Menactra* and *Nimenrix* meningococcal vaccines prevent disease by providing both a direct effect in the vaccinated individual but also prevent the acquisition of carriage of the organism, which interrupts transmission and protects unvaccinated persons.

PHARMAC initially indicated that 10,000 doses of vaccine could be available within three to four weeks but have since indicated that 20,000 doses could be procured, possibly within a two week timeframe.

Based on this, the following options have been identified to respond to the high incidence of Men W in Northland:

**Option 1: Vaccination of 13 to 19 year olds only**

- It is expected that 10,000 doses would be sufficient to provide up to 80% coverage in this age group.
- The vaccine would be made available through community clinics, outreach clinics, primary care, and Māori providers.
- The vaccine could also be administered through a school programme, potentially targeting Year 9 and 10 in December (if the vaccine arrives early enough), and targeting other age groups through drop in clinics, December through to February.
- The benefits of this approach is that it targets the age group which has the highest rates of carriers. Evidence from Public Health England suggests that this is the most effective strategy to control an outbreak.
- Because the age group (under 5 year olds) with the highest rates of disease is not targeted in this approach, public messaging and communications would need to be very clear to ensure understanding about the reasons why adolescents have been targeted.
- The estimated cost of this option (not including the cost of the vaccine which would be funded by PHARMAC) is between $9(2)(i)(a)(t), $9(2)(f)(iv).
Option 2: Vaccination of both under five year olds (nine months to four years) and 13 to 19 year olds

- It is expected that 20,000 doses would be sufficient to provide up to 80 percent coverage of these two age groups.
- This could be done in a phased manner, with the immediate priority to implement a rapid school programme before the end of the 2018 school year.
- The vaccine would also be made available through secondary schools, community clinics, outreach clinics, primary care, and through Māori providers.
- The benefits of this approach would be that it targets the two priority groups that were identified by the TAG. It targets the age group (under five years) that is most affected by the disease as well as the age group (13-19 years) with the highest rates of carriers. Evidence from a recent campaign in Chile, and Public Health England suggests that this approach would result in control of the outbreak.
- The disadvantages of this approach would be that the DHB would be targeting two different age groups, resulting in complex communications and logistics to deliver the vaccine.
- The overall cost for this option is estimated to be between $9(2)(ba)(i), s 9(2)(f)(iv). This would include the costs of outreach services, additional staffing, NGO/iwi provider assistance, vaccine storage and distribution, primary care payments, an in schools-based programme and an out of school youth mobile programme. This would not include the cost of the vaccine (which would be funded by PHARMAC) or the internal reprioritisation costs to Northland DHB.

Option 3: Vaccination of under five year olds (nine months to four years) only.

- It is expected that 10,000 doses would be sufficient to provide up to 80% coverage in this age group.
- The vaccine would be made available through community clinics, outreach clinics, primary care and Māori providers.
- The overall cost of this option is estimated to be $9(2)(ba)(i), s 9(2)(f)(iv). This costing includes the costs of outreach services, additional staffing, NGO/iwi provider assistance, vaccine storage and distribution and primary care payments. This does not include the cost of the vaccine (which would be funded by PHARMAC) or the internal reprioritisation costs to Northland DHB.
- This is the age group the most affected once the disease spreads.
- This option is Northland’s preferred option if only 10,000 vaccines are available. However, it is not the Ministry’s preferred approach as it will only reduce rates in the vaccinated age group and fail to control overall disease rates in the wider population (based on Chile’s experience).

Option 4: Vaccination of all under 20 year olds.

- It is expected that 40,000 doses would be required to provide up to 80% coverage in this age group.
- The vaccine would be made available through community clinics, outreach clinics, primary care and Māori providers.
- The vaccine could also be administered through a school programme following the start of the school year in early February.
- The estimated cost of this approach would be between $9(2)(ba)(i), s 9(2)(f)(iv). This includes the costs of outreach services, additional staffing, NGO/iwi provider assistance, vaccine storage and distribution and primary care payments. This does not include the cost of the vaccine (which would be funded by PHARMAC) or the internal reprioritisation costs to Northland DHB.
- Northland undertook a meningococcal C immunisation programme in 2011 that targeted under 20 year olds which was successful in eliminating meningococcal C in Northland. There have been no cases of meningococcal C since 2011.
Option 5: Continued contact chemoprophylaxis and awareness raising with no immunisation campaign

- Contact chemoprophylaxis is carried out already where there are cases of meningococcal disease.
- Awareness raising and education campaigns are conducted by the Ministry and DHBs as part of standard operations however in response to the increasing rates of meningococcal, additional communications and health promotion could be used to mitigate the risks of transmission through prevention.
- The activities in this option are currently being delivered as part of business as usual. If this option was to be selected, there would be increased media coverage and awareness raising activities which would be expected to cost between $9(2)(b)(i), 9(2)(i)(v)
- Although this is the lowest cost option, there is no evidence that this approach would control the outbreak. In addition, because the TAG recommended an immunisation campaign, the Ministry and Northland DHB would need to manage the perception that no action is being taken.

Assessment of options

Taking into account the advantages and disadvantages of each of the above options and assuming that PHARMAC is able to procure 20,000 vaccine doses, option 2 is the preferred option. If only 10,000 doses are available, then option 1 is recommended. Contact tracing, chemoprophylaxis and awareness raising will continue regardless of which option is selected.

Operational considerations

If you agree with the preferred option, coordination will need to be undertaken between the Ministry, Northland DHB, and other parties to implement the vaccination programme. Delivery of the vaccine is proposed to be through primary care, community services, outreach services, and DHB services such as a school based programme. Human resource considerations need to be made such as redeployment of existing resources for example through reprioritising public health nurse activities, and possibly assistance to be provided by other DHBs. As a result, a decision to proceed with the preferred option would need to be made early in the week of 19 November 2018 so that coordination of all the necessary resources could get underway.

Next steps

Based on your agreement on the preferred option, the Ministry will:

- Work with Northland DHB and PHARMAC to progress the logistics of delivering the preferred option.
- Develop a communications plan. Dr Caroline McElney, Director of Public Health would be the Ministry spokesperson.
- Update the Minister of Health’s office weekly.
- Liaise with PHARMAC to ensure a sufficient number of antimicrobials are available over the Christmas period for both management of potential cases and contacts.
- Monitor the incidence of meningococcal cases in New Zealand to identify other potential outbreaks in other regions early. To support this, ESR is publishing a weekly update on meningococcal disease on their website, commissioned by the Ministry. PHARMAC funding approval for the vaccine would only apply to the Northland outbreak and further requests to manage different outbreaks would require further consideration by PHARMAC at the time they arose. Future requests for outbreak responses would also be subject to vaccine stock and available funds.
- Consider options on how to address the national increase in Men W cases throughout New Zealand. For example, making the quadrivalent vaccine fully funded for high risk groups. Consideration of a national ACWY vaccination programme would need significant planning with funding and stock availability being significant factors. Indications from international vaccine manufacturers indicate that any national programme could not be implemented until mid-2020.
**Requests**

It is requested that you:

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<td>1.</td>
<td>Note</td>
<td>The Ministry's overall approach to addressing the Men W outbreak in Northland.</td>
<td>Yes/No</td>
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<td>Option 1</td>
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<td>2.</td>
<td>Identify</td>
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<td>3.</td>
<td>Note</td>
<td>The Ministry is considering options on who to address the overall increase in Men W in New Zealand.</td>
<td>Yes/No</td>
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**Signature**
William Rainger  
Acting Deputy Director-General, Population Health and Prevention

Date: 13/9/15

**Signature**
Ashley Bloomfield  
Director-General

Date: 2/11/18