

Meningococcal B vaccination: update

No. 2022/26, The Hague, October 12, 2022

Executive summary

Health Council of the Netherlands



In 2018, the Health Council of the Netherlands recommended in favour of including meningococcal A, C, W and Y vaccine in the National Immunisation Programme (*Rijksvaccinatieprogramma*, RVP) but against the inclusion of the meningococcal B vaccine. Although the burden of disease associated with meningococcal B was sufficient grounds to consider vaccination, a number of criteria in the vaccination assessment framework were not met or could not be assessed. The Council anticipated that it would make sense to reconsider vaccination after a period of around three years. New data has now emerged on the effectiveness and safety of the vaccine. The State Secretary for Health, Welfare and Sport (*Volksgezondheid, Welzijn en Sport*, VWS) has therefore asked the Council to issue a new advisory report on the inclusion of the meningococcal B vaccine in the RVP.

Burden of disease

As in 2018, the Committee notes that meningococcal B (MenB) infection is a very

serious disease. It can lead to meningitis and sepsis, and ultimately result in death.

The Committee believes that these are grounds to strongly consider vaccination in children and adolescents. The number of cases has been low in recent years: an average of around 75 cases per year in all age groups combined. In 2021, there were 31 cases of MenB in total, 14 of which occurred in young children and 10 in adolescents. Up to 1 July 2022, 6 cases had been identified in young children and 15 in adolescents.

Efficacy and effectiveness

No new vaccines have been developed since 2018. The two existing vaccines have been confirmed to be sufficiently effective, although there is little data on long-term protection. One of the available vaccines (the 4CMenB vaccine) offers protection against the majority of MenB strains circulating among young children and adolescents in the Netherlands. The vaccine is estimated to be between 50 and 90% effective against all circulating MenB

strains, with a significant margin of uncertainty due to the low number of cases. It has now become clear that the vaccine has no effect on MenB bacteria carrier status. This means that the vaccine does not result in herd immunity.

Cost effectiveness

MenB vaccination has a highly unfavourable cost-effectiveness ratio. The reason for this is the currently low number of cases, the very high vaccine price, and the fact that vaccination does not provide herd immunity.

Safety

The MenB vaccine causes a relatively large number of temporary adverse events, particularly in young children. They include reactions at the injection site and fever. In very young children, fever is often a cause for hospital admission and medical intervention. Adverse events such as these are particularly common when the vaccine is administered with other routine vaccines. Prophylactic use of



paracetamol can reduce the risk of adverse effects.

Acceptability

The acceptability of vaccination as part of a public immunisation programme is determined by the risk-benefit ratio. The health benefits are limited at population level, as the disease is rare and there is a degree of uncertainty as to the vaccine's effectiveness. Since adverse events are more common with the MenB vaccine than with other vaccines in the RVP, it is difficult to predict how this will work out in a public immunisation programme. The burden will also increase, as a minimal of two injections will need to be added to the RVP. Acceptability at population level is difficult to determine due to uncertainty regarding the potential health benefits and the disadvantages. However, the benefits could indeed outweigh the disadvantages at individual level.

Recommendation

The Committee recommends against including the MenB vaccine in the RVP for the time being. For young children in particular, the low number of cases combined with the adverse events and highly unfavourable cost-effectiveness ratio are the decisive factors in a decision not to vaccinate all young children against MenB for now. The number of cases in adolescents is even lower. There is some uncertainty as to whether the protection is sufficiently long lived, and vaccination does not result in herd immunity.

There are a number of reasons that could lead to a reconsideration of the recommendation in the future, such as an increase in the number of cases or a new vaccine. The Committee recommends that research is carried out into the impact of the adverse events of the vaccine and prophylactic paracetamol use on parents' willingness to vaccinate their children against MenB, and on willingness to vaccinate in general.

Individual parents can arrange for their children to receive a MenB vaccine outside the RVP. The Committee believes it is important to maximise awareness of this vaccine and to make it accessible for people who wish to have it. The Committee notes that providing access to the MenB vaccine without further measures can lead to healthcare inequality due to the need to pay. People at a higher risk of meningococcal disease, in other words people with hereditary complement deficiency, an indication for use of the drug eculizumab, or functional hyposplenias/asplenia, are already eligible for a MenB vaccine under the Healthcare Insurance Act.



The Health Council of the Netherlands, established in 1902, is an independent scientific advisory body. Its remit is “to advise the government and Parliament on the current level of knowledge with respect to public health issues and health (services) research...” (Section 22, Health Act).

The Health Council receives most requests for advice from the Ministers of Health, Welfare and Sport, Infrastructure and Water Management, Social Affairs and Employment, and Agriculture, Nature and Food Quality. The Council can publish advisory reports on its own initiative. It usually does this in order to ask attention for developments or trends that are thought to be relevant to government policy.

Most Health Council reports are prepared by multidisciplinary committees of Dutch or, sometimes, foreign experts, appointed in a personal capacity. The reports are available to the public.

This publication can be downloaded from www.healthcouncil.nl.

Preferred citation:

Health Council of the Netherlands. Meningococcal B vaccination: update.

The Hague: Health Council of the Netherlands, 2022; publication no. 2022/26.

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