

20 NOV 2019

Shareena-Miree McMahon

By email: fyi-request-11486-591039e9@requests.fyi.org.nz

Ref: H201909201

Dear Ms McMahon

Response to your request for official information

Thank you for your request of 17 October 2019 under the Official Information Act 1982 (the Act) on for:

"Is it possible for someone who is immune to the measles virus to come into contact with that virus while it is still contractible in areas where an infected person has been present, and carry that virus elsewhere without getting sick themselves but still assist in the spread of the virus by moving to another location and coming into contact with someone who is not immune and infect them if it is during the time that the virus would still be alive on a surface without the infected person present"

It is possible for an individual who has been vaccinated from measles to contract the virus and transmit it to unvaccinated people, but it is highly unlikely. This is because the vaccinated person's antibodies completely surround, attach to, and then kill the virus. The measles virus cannot multiply in the vaccinated person, which prevents it from being transmitted to others. This is the concept of herd immunity. Vaccinated individuals provide a strong barrier of protection to the unvaccinated.

The measles virus can live for up to two hours in an airspace where the infected person coughed or sneezed. Unvaccinated people can spread measles to others from four days before through four days after the rash appears. The measles, mumps and rubella (MMR) vaccine is a two-dose vaccine series that effectively protects against all three viruses. One dose of MMR protects 95 per cent of people against measles, while two doses increases this to 99 per cent.

However, as noted above, there will always be a very small number of people who will not make an immune response to a particular vaccine and will therefore remain unprotected from that disease. For measles, with two doses of the MMR vaccine this is about 1 out of every 100 people vaccinated. Further information on the vaccine's efficacy is available at the following address: <https://health.govt.nz/our-work/preventative-health-wellness/immunisation/vaccine-effectiveness>.

Though the MMR vaccine is not 100 per cent effective, it is a crucial tool in controlling the spread of measles. Immunised individuals who do contract the virus after being vaccinated often have milder symptoms and have a faster recovery. Fully vaccinated people are also much less likely to spread the disease to others.

I trust that this information fulfils your request. Under section 28(3) of the Act you have the right to ask the Ombudsman to review any decisions made under this request.

Please note that this response, with your personal details removed, may be published on the Ministry of Health website.

Yours sincerely

A handwritten signature in blue ink that reads "D Woodley". The signature is written in a cursive style with a large initial 'D'.

Deborah Woodley
Deputy Director-General
Population Health and Prevention