

DS20-13-0

Steve Sharp

Email: fyi-request-1831-09236720@requests.fyi.org.nz

Ref: H201403076

Dear Mr Sharp

H201403076: Official Information Act 1982 request: Number of immunised, fully immunised, and unimmunised people who have contracted measles with the recent outbreak

Thank you for your request for official information, received by the Ministry of Health (the Ministry) on 22 July 2014. You requested “the breakdown of the numbers of partially immunised, fully immunised, and unimmunized people that have contracted measles with the recent outbreak”.

Please find below the information you requested:

Confirmed measles cases by age group and immunisation status for New Zealand outbreak beginning week of 16/12/13 through 22/07/14.

Age group	Not Immunised	Partially Immunised	Fully Immunised	Unknown	Total
<15 Months	26	0	0	0	26
15 Months-3 Years	8	2	0	1	11
4-9 Years	17	1	0	0	18
10+Years	125	17	24	42	208
Grand Total	176	20	24	43	263

This table represents the immunisation status of cases as reported in EpiSurv, the national notifiable disease surveillance database managed by the Institute of Environmental Science and Research Ltd (ESR).

To be fully immunised against measles requires two doses of measles-containing vaccine received after the first birthday. The above table shows that a small number of people catch measles despite being fully immunised; in this case a total of 44 partially and fully immunised individuals acquired measles out of 263 total cases. This does *not* demonstrate a vaccine failure rate of 44/263 or 17%. Vaccine effectiveness is demonstrated by the reduction in the incidence of a disease among individuals who have received an immunisation compared to the incidence in unimmunised individuals.

In populations where measles immunisation coverage is high, a greater proportion of the population is protected. In this situation measles cases will rarely occur, however a higher proportion of cases will occur in immunised people. This is expected due to the vaccine being close to, but not quite, 100% effective.

A New Zealand study published in the *Journal of Primary Health Care* in 2013 found that confirmed measles cases that had previously been vaccinated had a less severe illness (fewer clinical features on presentation, lower fever of shorter duration, reduced number of days needing medication other than paracetamol and fewer days in bed than those that had not previously been vaccinated).¹ The authors concluded that previously vaccinated children who develop measles are likely to have less severe disease.

While a similar study has not been undertaken for the recent cases in New Zealand, information on hospital treatment for these cases shows that those that have previously been immunised are less likely to require hospitalisation. Of the 44 cases of measles in the recent outbreak in individuals that had previously been immunised with a measles containing vaccine only two (2/44, or 4.5%) were hospitalised. Of the 176 cases of measles in the recent outbreak in individuals that are known to have *not* been immunised with a measles containing vaccine 26 (26/176, or 14.7%) required hospitalisation. In this sample those who received at least one dose of measles containing vaccine were less than one-third as likely to be hospitalised for measles as those who were not immunised.

I trust this information fulfils your request. You have the right, under section 28(3) of the Act, to ask the Ombudsman to review my decision on this request. Information about making a complaint is on the website of the Office of the Ombudsman (www.ombudsman.parliament.nz). You can also contact the Office on freephone 0800 802 602.

Yours sincerely



Dr Don Mackie
Chief Medical Officer
Clinical Leadership, Protection, & Regulation

¹ Peter Mitchell, Nikki Turner, Lance Jennings, Hongfang Dong. 2013. "Previous vaccination modified both the clinical disease and immunological features in children with measles." *Journal of Primary Health Care* volume 5 number 2 (June): 93-98. URL: <http://www.immune.org.nz/sites/default/files/resources/Mitchell,%20prev%20measles%20vac%20modifie%20wild%20measles,%202013.pdf>