



ARAINGA MATE

Immunise to protect

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 A Verheijden
 Secretary
 Immunisation Awareness Society
 P O Box 56 048
 Dominion Road
 Auckland

Dear A Verheijden,

re: Whooping Cough Epidemic

In response to your letter of 9 December 1999. Firstly my sincere apologies for misplacing the original copy.

1. "A series of free immunisation are now available to protect your baby from whooping cough".

There is a large range of research studies looking at protective levels from pertussis vaccinations. The vaccine efficacy for the Wyeth-Lederle pertussis vaccination is approximately 85% (refer Immunisation Handbook, Ministry of Health, February 1996). With regard to the duration of immunity - data shows that protection declines by 50% over 6-12 years. Refer p308 "Vaccines", 3rd edition, Plotkin & Orenstein, WB Saunders Company 1999.

The evidence that vaccinating children against whooping cough will prevent them from catching the disease has been graphically shown in many countries when vaccination use was curtailed or abandoned resulting in widespread epidemics. It is also important to note that vaccination greatly reduces the severity and duration of the disease, even if not absolutely preventing it. I enclose a copy of a Lancet article "Impact of anti-vaccine movements on pertussis control: the untold story" which discusses and analyses this issue.

In the present New Zealand outbreak from the ESR information for pertussis notifications from 1.1.99 - 20.12.99.

A total of 913 cases of pertussis were recorded.
 of these: 112 were unimmunised
 245 were status unknown
 180 had received four immunisations
 275 had received three immunisations
 51 had received two immunisations
 50 had received one immunisation

668 immunisation status known
 16.76% unimmunised
 68.11% 3 or 4 shots - supposedly
 immune
 15.1% presumably up to date
 1-2 shots = "non-preventable"

These statistics need to be interpreted based on immunisation coverage rates. Present estimates of coverage are 76.4% for 3 pertussis vaccines (Immunisation Coverage Surveillance, Using Benefit Claim Data - report prepared for Ministry of Health by Anne McNicholas, Nick Garrett and Melissa Perks, April 1999). There are methodological concerns with this data and coverage may be lower than this.

If there is a very high immunisation coverage then there will be low levels of absolute numbers catching the disease, but a higher percentage will be immunised. Conversely with low immunisation coverage there will be more catching the disease and proportionately more unimmunised. Hence the proportion vaccinated depends on the immunisation coverage.

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2. "Immunisation plays a key role in the health of our children"

To support this statement I quote from the American MMWR Weekly April 02, 1999 48(12); 241-243 "Ten great public health achievements - United States 1900-1999.

Number One: Vaccination which has resulted in the eradication of smallpox; elimination of poliomyelitis in the Americas; and control of measles, rubella, tetanus, diphtheria, haemophilus influenza type B, and other infectious disease in the United States and other parts of the world".

The reason there is low incidence of disease in New Zealand is because many New Zealand children are immunised. The most recent graphic example of this is the dramatic decline in the incidence of Haemophilus influenza meningitis since the introduction of the vaccine in 1995. This disease was prior to 1995, the most common cause of bacterial meningitis in children under 5 years of age. To compare vaccine reactions to disease reactions one needs to know the incidence of diseases in an unvaccinated population - the higher the vaccination rates the lower the disease rates.

There is a vast amount of research showing vaccination gives protection. The epidemiological evidence is shown in papers such as the enclosed Lancet paper. For the immunological evidence I would refer you to the book "Vaccines" 3rd edition by Plotkin & Orenstein 1999. This reference text contains a large range of references on the topic and gives an overview of all the evidence.

3 & 4 The hypothetical scenario is based on figures known from what happens to a population of children when they catch whooping cough. You may like to read the NZ Immunisation Handbook P62 which quotes from American data. Equally the data on vaccine side effects is listed on page 66-67 with references.

The definition of an epidemic does vary and in New Zealand it is up to the Medical Officer of Health in an area to decide what constitutes an epidemic.

Yours faithfully,



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