

Thursday, 4 June 1998

I. "BENEFITS AND RISKS OF IMMUNISATION" BOOKLET

The booklet is either intentionally or accidentally misleading in its comparison of complication rates and adverse reactions. They are presented beside each other in the boxes as if to suggest that the figures are comparable. They are not. One needs to know the incidence of cases.

For example, there were around 6,000 reported pertussis cases last year spread over the entire population. This represents an approximate incidence of one case per 3,000 people per year. That is, only one in 3,000 will catch pertussis. Assume that one third of these occur in kids under 6, totalling 2,000 cases under 6.

On the other hand, approximately 1.5 million pertussis shots are administered, covering around 90% of first year babies, and 80% of the others in booster shots. Each shot carries adverse reaction risks.

On the brochure figures provided on page 4, for example, the following would be the number of complications or adverse reactions in children under 6.

Complication	Disease #	Vax #
Encephalitis	2 - 80	1.5 - 45
Convulsions	12 - 160	4.5 - 1,350
Permanent brain damage	12 - 40	3 - 9
Death	2 - 80	3
Hypersensitivity	0	7.5 - 450

Clearly, the figures are simply incorrect, as can be seen by inspection of the "death" outcome. There has been an average of one death per year from pertussis over the past decade, below the range provided. If there were three deaths from vaccination, as suggested, we would have to seriously think about banning vaccination!

The point is, while only a small proportion of the population suffer the illness in a given year (and the majority who do not contract the illness obviously cannot suffer complications), the vast majority of the population is vaccinated. To match the risks of one choice over another, the rates must be known.

Yes, the illness is a greater risk than a single shot, but any given child is vastly more likely to avoid the illness than to suffer it. If they do suffer it, they have lifelong (or at least 15 years) of immunity. All vaccinated children receive the vaccine, however. And to gain the benefits,

they need to have it six times at least. Current medical literature suggests we may need to give it five yearly for life in people who are vaccinated.

Finally, the "Hypersensitivity" issue is problematic. We need to know not only how many children die soon after vaccination, but how many suffer increased hypersensitivity diseases such as asthma as a result of vaccination, and how many progress on to severe allergic illness, and even death.

II. RISKS FOR INDIVIDUAL CHILD

I have used the 1996 figures on reported incidence of "vaccine preventable diseases" from *Communicable Disease Intelligence, Vol 21, No 2, 23/1/97*, and the adverse reaction and complication rates used in the NSW Health publication, *Benefits and risks of Immunisation*.

I have assumed that a third of reported cases occur in the 0 - 6 year old age range (this is probably an overestimate), and that we are comparing the risks of an unvaccinated child with those of a vaccinated child. This is more difficult than it may at first seem.

A. PERTUSSIS

4257 cases reported in 1996. Three (possibly 4) deaths reported (all in infancy, prior to 2 months, in children unable to be vaccinated). 1.5 million vaccinations administered. 80% of children fully or partly immunised. Overall vaccination rate of 60%.

Complication rates are lifted from NSW Health Publication (page 4).

Complication	Disease #	Vax #
Encephalitis	2 - 80	1.5 - 45
Convulsions	12 - 160	4.5 - 1,350
Permanent brain damage	12 - 40	3 - 9
Death	2 - 80	3
Hypersensitivity	0	7.5 - 450

Combine complication rates to provide comparison:

Unvaccinated child - between 26 and 280 complications among 600,000 children,
(representing a 1 in 4000 average risk of complication for each unvaccinated child)

Vaccinated child - between 9 and 1,404 complications among 900,000 children
(representing a 1 in 1300 average risk of complication for each vaccinated child)

The death rates are impossible to compare. No deaths have occurred in the age group of Natasha in the past 10 years from pertussis, and it is unlikely that the NSW Health suggestion of 3 deaths per year from vaccination can be easily sustained. If the NSW health figures were true, the greater risk of death for children older than 6 months would have to be assumed to be that of vaccination.

B. MEASLES

489 cases reported in 1996. No deaths reported. 0.5 million vaccinations administered. 90% of children fully or partly immunised. Overall vaccination rate of 90%.

Complication rates are lifted from NSW Health Publication (page 4).

Complication	Disease #	Vax #
Pneumonia	20 - 35	0
Encephalitis	0.25 - 2	0
Convulsions	2.5 - 5	0.1 - 1,000
SSPE	0 - 0.01	0.25 - 0.5
Death	0.05 - 50	0.1 - 1.5
Hypersensitivity - Not quoted (est 1 per 1000)		500

Combine complication rates to provide comparison:

Unvaccinated child - between 23 and 42 complications among 600,000 children,
(representing a 1 in 20,000 average risk of complication for each unvaccinated child)

Vaccinated child - between 0 and 1,000 complications among 900,000 children
(representing a 1 in 14,000 average risk of complication for each vaccinated child)

The death rates quoted appear nonsensical, with a range so broad as to be meaningless. The actual number of measles related deaths are directly comparable with the anticipated number of measles deaths related to vaccination.

C. OTHER VACCINATIONS

There were no cases of diphtheria or polio, and only two cases of tetanus. The tetanus occurred in adults whose immunity to past vaccinations had waned.

Thus, for these diseases, vaccination provides no advantages for an individual child over non vaccination, but does incur risks associated with vaccination.

Rubella is not an issue for the child, but for her future pregnancies. Again, vaccination provides no significant advantages for an individual child over non vaccination, but does incur risks associated with vaccination.

Mumps is an illness with a low incidence, and is a risk mainly to males rather than females. Only 122 cases were notified in 1996. The figures on adverse reactions to mumps vaccine are taken to be those of reaction to measles vaccine (above) as they are administered simultaneously. The complications of the illness are less than for measles in a female. Thus, there is a lower benefit for the same risk, suggesting little advantage for a female child being vaccinated for mumps.

Only 51 cases of HiB were reported in 1996, despite vaccination rates of only 50% (ABS statistics). Even if all were assumed to occur in unvaccinated children, this suggests a risk of contracting HiB of approximately one in 15,000. The complication rate is approximately 10%, giving a final maximum rate of disease complication of one in 150,000. This is a lower risk than the risk of complications from any current vaccine, suggesting strongly that the unvaccinated child is at no higher overall health risk than a vaccinated child.