

Herd Immunity Created by Vaccination: Is it possible?

The Australian Government emphasises to the public that the control of infectious diseases depends upon the creation of 'herd immunity' by vaccination (DHA IAP 2012). This concept suggests that when a large proportion of the community is immune to a disease then this provides protection for the unimmunized individuals in the community by interrupting the transmission of the agent and resulting in fewer infections in the community (DHA IAP 2012, Friis and Sellers 2004). Herd immunity can be created by natural infection or vaccination however there are several reasons why herd immunity *created by vaccination* may not be achieved in practice:

- I. There can be more than one strain of an organism that causes the disease which may not be included in the vaccine.
- II. Humans may not be the only reservoir for the disease. The virus/bacteria may be found in other animals.
- III. The virus/bacteria can mutate and the vaccine may not contain the mutated strain.

These problems place doubt on the ability of vaccines to provide herd immunity therefore governments must provide evidence that vaccines create herd immunity. It is not acceptable to claim that 'community protection depends upon all individuals being vaccinated' without providing supportive evidence that this is possible. The government must provide evidence for the effectiveness of vaccines before coercive strategies are used in public health policy with this medical intervention.

It is a fact that infectious diseases had declined through public health measures and improved nutrition in the mid-twentieth century *before the use of most vaccines* (Com Yearbook 1953, ABS Child Health Since Federation 2001). At this time it was known that natural exposure to

many infectious diseases results in herd immunity created by sub-clinical and mild infection and this immunity is of longer duration than that provided by vaccination (Friis and Sellers 2004, DHA IAP 2012).

This knowledge provides evidence that using vaccines against numerous infectious diseases may not be the best management strategy for protecting the health of the community. This is particularly the case when the adverse events to vaccines and the synergistic effects of using multiple excipients (in multiple vaccines) for undeveloped infants are considered. This is supported by the iceberg concept of disease which claims the majority of exposures to many pathogens do not progress to active clinical disease but remain sub-clinical and this creates herd immunity without any symptoms of the disease (Friis and Sellers 2004 p. 409).

References:

Australian Government, Department of Health and Ageing (DHA), Immunise Australia Program, www.immunise.health.gov.au updated 25 November 2011 (visited December 2012)

- a) About the Program

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/home>

visited December 2012

- b) Frequently Asked Questions (FAQ), last modified September 2010

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/faq#1>

visited 19.10.11

- c) [The list of vaccines required to be 'fully immunised'](#)

d) Strengthening Immunisation for Children

<http://immunise.health.gov.au/internet/immunise/publishing.nsf/Content/factsheet-strengthening-immunisation>

e) Immunisation Handbook, Appendix 4, Components of Vaccines

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/handbook-appendix4> visited March 2013

Australian Government, Australian Bureau of Statistics (ABS)

1301.0 Year Book Australia, 2001, Child Health Since Federation (updated 29.03.06)

Commonwealth Department of Health, 1945 – 1986, Official Yearbook of the Commonwealth of Australia, (Com. Year) No. 37 – 72.

Friis, R.H., and Sellers, T.A., 2004, Epidemiology for Public Health Practice, Jones and Bartlett Publishers, Inc., London.