Committee Secretary
Senate Standing Committees on Community Affairs
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Re: Social Services Legislation Amendment (No Jab, No Pay) Bill 2015

October 12, 2015

Dear Sir/Madam,

My name is Tetyana Obukhanych and I hold a PhD in Immunology. In this letter, I would like to address a few common misperceptions concerning unvaccinated and vaccinated children, disease protection options available to the immuno-compromised, and the frequency of vaccine adverse events in young children. These misperceptions need to be corrected in order to ensure fair vaccination policy in Australia.

First, there is a misperception that unvaccinated children are reservoirs of infection. Back in the 19th century, Louis Pasteur experimentally refuted the *Doctrine of Spontaneous Generation* and laid the foundation for the modern understanding of infectious disease. Modern science holds a view that infectious diseases do not spring up in people spontaneously. This means that unvaccinated children are not inherently contagious and do not pose a risk to others unless they themselves first contract an infection from another person. Fears of *uninfected* children who happen to be unvaccinated are unfounded and, ironically, are based on an outdated pre-Pasteurian view of disease.

Second, there is a misperception that a person can catch infection and bring it into the community only if left unvaccinated, whereas a vaccinated person cannot catch and transmit infection to susceptible contacts, except for a very small percent of vaccine failures. This view is inaccurate for the following reasons:

a) The majority of newer vaccines now in use in Australia and other developed countries (unlike some of the older vaccines that are still utilized in developing countries) are not designed to prevent *transmission* of infection. They are designed only to prevent the *symptoms* of disease in the vaccine recipient. This means that a child or adult who has been previously vaccinated with such vaccines may, upon later exposure to the disease, experience an asymptomatic infection. But because they remain unaware of being contagious they can unknowingly spread the infection to susceptible contacts, such as infants. The most notable vaccine that permits the transmission of infection by the vaccinated is the acellular pertussis vaccine (for whooping cough). The US Food and Drug Administration (FDA) has issued a warning regarding this vaccine and its effect on the spread of whooping cough [1].

b) Protective antibody titers generated by any vaccine tend to wane over time in everyone, resulting in susceptibility to modified disease in the vaccinated population. Previously vaccinated people may develop a clinically attenuated and unrecognizable in the absence of a laboratory test presentation of a childhood disease while being infected with the virus and

spreading it to others. Modified cases of disease are not required to be reported to public health authorities, resulting in the reduction of reportable disease incidence on paper.

c) Previously vaccinated individuals have been documented as index cases in recent measles outbreaks in developed countries in the post-elimination era, meaning they brought the disease back into their community after travel [2-3].

It follows that the use of many modern vaccines is suited only for the prevention or modification of typical disease *symptoms* in individuals who so desire, but not for preventing the transmission of infections.

Third, there is a misperception that vaccine-induced herd immunity (a questionable concept in itself by virtue of the fact that there have been documented recent disease outbreaks in populations with up to 99% vaccination coverage [4-5]), is the only means of protecting immuno-compromised individuals. Contrary to popular belief, there is only one type of vaccine, a live attenuated viral vaccine, which this group cannot use. The majority of modern vaccines do not fall into this category; therefore, immuno-compromised individuals are eligible to receive them, if they so choose. Furthermore, the immuno-compromised cannot be around those who have been recently vaccinated with live attenuated vaccines, to avoid exposure to viable vaccine-derived viruses.

As for the protection of the immuno-compromised against diseases for which only live attenuated vaccines are available, there exists a post-exposure immuno-prophylactic product called *immunoglobulin* [6], which constitutes passive immunization via the transfer of ready-made virus-neutralizing antibodies. It is indicated for three vulnerable groups: the immuno-compromised, infants, and non-immune pregnant women, all of whom cannot be vaccinated with live attenuated vaccines. There is therefore no reason for the government of Australia or any free country to violate medical ethics by coercing its citizens to submit to vaccination under the pretext of protecting the immuno-compromised and other vulnerable groups, because those individuals can themselves be protected by measures that do not impose vaccination "responsibilities" on others.

Finally, a misperception still exists that vaccination rarely leads to serious adverse events. Unfortunately, this belief is contradicted by scientifically documented evidence. A recent study established that vaccination leads to an emergency room visit for 1 in 168 children following their 12-month vaccination appointment and for 1 in 730 children following their 18-month vaccination appointment [7].

When the risk of an adverse event requiring an emergency room visit after a well-baby vaccination appointment is magnitudes higher than the proverbial one-in-a-million figure, vaccination must remain a personal choice. Parents may understandably be unwilling to risk the health of their child who is well, in order to possibly protect their child from those diseases that are generally considered mild or that their child may never be exposed to. To deprive such parents of welfare benefits or restrict their use of societal resources under the pretext of vaccination "responsibility," is both unethical and unnecessary.

Sincerely Yours,

Dr. Tetyana Obukhanych

References

[1] FDA News Release, Nov 27, 2013
http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm376937.htm
"This research suggests that although individuals immunized with an acellular pertussis vaccine may be protected from disease, they may still become infected with the bacteria without always getting sick and are able to spread infection to others, including young infants who are susceptible to pertussis disease."

[2] Rosen *et al.* (2014) *Clin Infect Dis* 58:1205-1210
http://www.ncbi.nlm.nih.gov/pubmed/24585562
"The index patient had 2 doses of measles-containing vaccine."

[3] De Serres *et al*. (2013) *J Infect Dis* 207:990-998
http://www.ncbi.nlm.nih.gov/pubmed/23264672
"The index case patient received measles vaccine in childhood."

[4] *ibid*
"The largest measles epidemic in North America in the last decade, occurred in 2011 in Quebec, Canada, where vaccine coverage among children 3 years of age were 95%-97%."

[5] Wang *et al*. (2014) *PLoS One* 9:e89361
http://www.ncbi.nlm.nih.gov/pubmed/24586717
"The reported coverage of the measles-mumps-rubella (MMR) vaccine is greater than 99.0% in Zhejiang province. However, the incidence of measles, mumps, and rubella remains high."

[6] Immunoglobulin Handbook, Health Protection Agency
http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1242198450982
HUMAN NORMAL IMMUNOGLOBULIN (HNIG):
Indications
1. To prevent or attenuate an attack in immuno-compromised contacts
2. To prevent or attenuate an attack in pregnant women
3. To prevent or attenuate an attack in infants under the age of 9 months

[7] Wilson *et al.* (2011) *PLoS One* 6:e27897
http://www.ncbi.nlm.nih.gov/pubmed/22174753
"Four to 12 days post 12 month vaccination, children had a 1.33 (1.29-1.38) increased relative incidence of the combined endpoint compared to the control period, or at least one event during the risk interval for every 168 children vaccinated. Ten to 12 days post 18 month vaccination, the relative incidence was 1.25 (95%, 1.17-1.33) which represented at least one excess event for every 730 children vaccinated. The primary reason for increased events was statistically significant elevations in emergency room visits following all vaccinations."