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Vaccine myths and why they are dangerous

Outbreak of rubella is a taste of what can happen if we are not careful, *says Dr. David Butler-Jones*

It's hard to imagine what Canada would be like today if not for immunizations. Hospital wards would remain crammed with young patients with polio, many in iron lungs over most summers.

We may not have invented knee or joint replacements because the surgeons are too busy dealing with post-polio effects.

Regular epidemics of measles would be leaving behind many deaths, deafness and other problems. Pertussis and haemophilus influenza would regularly cause not only the deaths of young children but leave many with brain damage as well.

There would regularly be large numbers of miscarriages, and many more infants born with birth defects, because their mothers caught rubella (German measles) during pregnancy.

And so the story goes, with a range of childhood diseases we now no longer worry about causing epidemics each year, not in the small bunches we see today, but in the thousands and tens of thousands. Fortunately, that is not the case.

Not only have we wiped out smallpox but we are on the verge of eliminating polio on the planet, not just in Canada.

The recent outbreak of rubella in southwestern Ontario that has infected more than 150 children and at least five pregnant mothers is a taste of what can happen if we are not careful.

Of course, respect for religious beliefs is an essential part of our free and open society. Deeply held, principled convictions can be a real strength for a community.

However, it must be recognized that there are also risks that result, such as preventable disease outbreaks, if vaccines are not taken.

More worrisome, though, is the anti-vaccine views fuelled by misinformation, or bad science. This is the "umbrellas cause rain because we see more umbrellas on rainy days" phenomenon.

Seizure disorders, autism and SIDS all show themselves in early childhood. Coincidentally, this is also the period when most immunizations are given. So often, vaccines are connected to an illness only in terms of time.

The real issue is not whether problems occur within days or weeks of an immunization but whether they occur more often after receiving a vaccine.

On this point, study after study has shown that these serious effects occur at the same rate with or without vaccine. However, those not immunized are more likely to get sick or die, or suffer brain damage from the infection the vaccine could have prevented.

No medication, procedure, therapy, vaccine or home remedy is completely without risk. The secret is to maximize the benefit, with the least intrusive measure with the fewest side effects. Immunization has been arguably the single most effective, low cost and safe intervention to improve health in the past century.

These are the facts. It is a needless tragedy when a child dies or is crippled for lack of a vaccine.

It also is needless when seniors die prematurely in a nursing home because all eligible staff members were not immunized against the flu and some brought it with them to work.

We are fortunate that most children are immunized. If not, the recent outbreak in Ontario that originated in the Netherlands would not be contained within the small unimmunized community, but would spread widely, resulting in thousands of cases and numerous birth defects and miscarriages.

Perhaps because vaccines have been so successful, many feel they are no longer needed. But these diseases can return if we let down our guard.

From 1993 to 1997, there were 5,000 deaths from diphtheria in the former Soviet Union after organized immunization was suspended.

In 2003, polio eradication campaigns, which have since resumed, were halted in Nigeria because of false information about oral polio vaccine. Polio has since become re-established in a growing number of countries in sub-Saharan Africa and has recently spread from Sudan to Yemen and Indonesia.

Campaigns against whooping cough vaccine in Britain, based on false information on the risk of the vaccine, caused immunization rates to fall, resulting in a return to epidemics with far more deaths and brain damage among children than we would want to think of.

False and misleading anti-vaccine claims increase the risk to all children.

Since no vaccine is 100 per cent effective, it is essential that all are immunized to gain not only individual benefit but the protection of those around us. Therefore, those who do not immunize not only risk the health of their children, but also those with illnesses or allergy who cannot be immunized, and those who were immunized but did not develop immunity.

The development of vaccines has meant that most parents in Canada have never seen a child of theirs with a life-threatening case of diphtheria, polio, tetanus, measles or other disease.

One of a parent's greatest fears and tragedies is the loss or injury of a child.

Immunization has been a key part of changing a situation where 100 years ago, one of every five young children died in Canada. Today, it has fallen to about one in 200.

We cannot take such progress for granted.

Dr. David Butler-Jones is Canada's Chief Public Health Officer and head of the Public Health Agency of Canada.

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