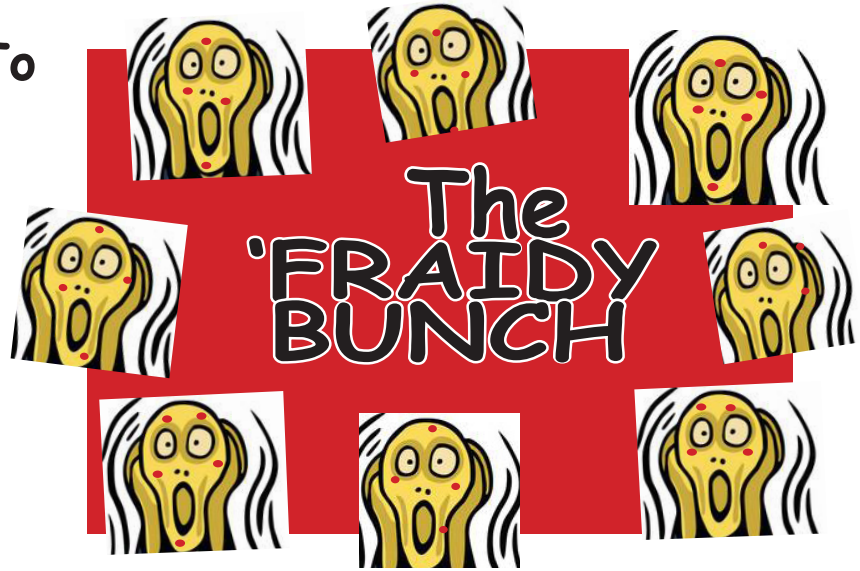
"The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by an endless series of hobgoblins, most of them imaginary." —H.L. Mencken, *In Defense of Women*

From

measles is a benign childhood illness

To



measles is a deadly dreaded disease

"I think we are compelled by fear more than reason. You have to make parents realize that their choice isn't a risk-free choice." —**Paul Offit,** head of the Vaccine Education Center at the Children's Hospital of Philadelphia, 2017 Science Magazine

"It has become increasingly clear…that medical revisionism is at the root of this hysteria. By this I mean the manipulation of historical and epidemiological facts in order to drive a specific agenda. The agenda is about inflating the fear of ordinary, beneficial childhood diseases while denying vaccine risks and failure. Suppressed is the fact that vaccine-derived immunity wanes over time, leaving swaths of people susceptible to measles. It is about demonizing the disease in order to erase societal memory of the long term benefit of natural 'herd immunity' previously enjoyed by the vast majority of people, now decimated by mass vaccination." —Edda West, President of Vaccine Choice Canada, 2015 Vitality Magazine,

All six Brady kids have the Measles: Is There a Doctor in the House? Begins at 3:30 in linked video. **Episode aired 26 December 1969.**

Are Measles Deadly? Annual Measles Deaths in Canada: 1924-2016

Data Source:
Statistics Canada
Mortality Tables

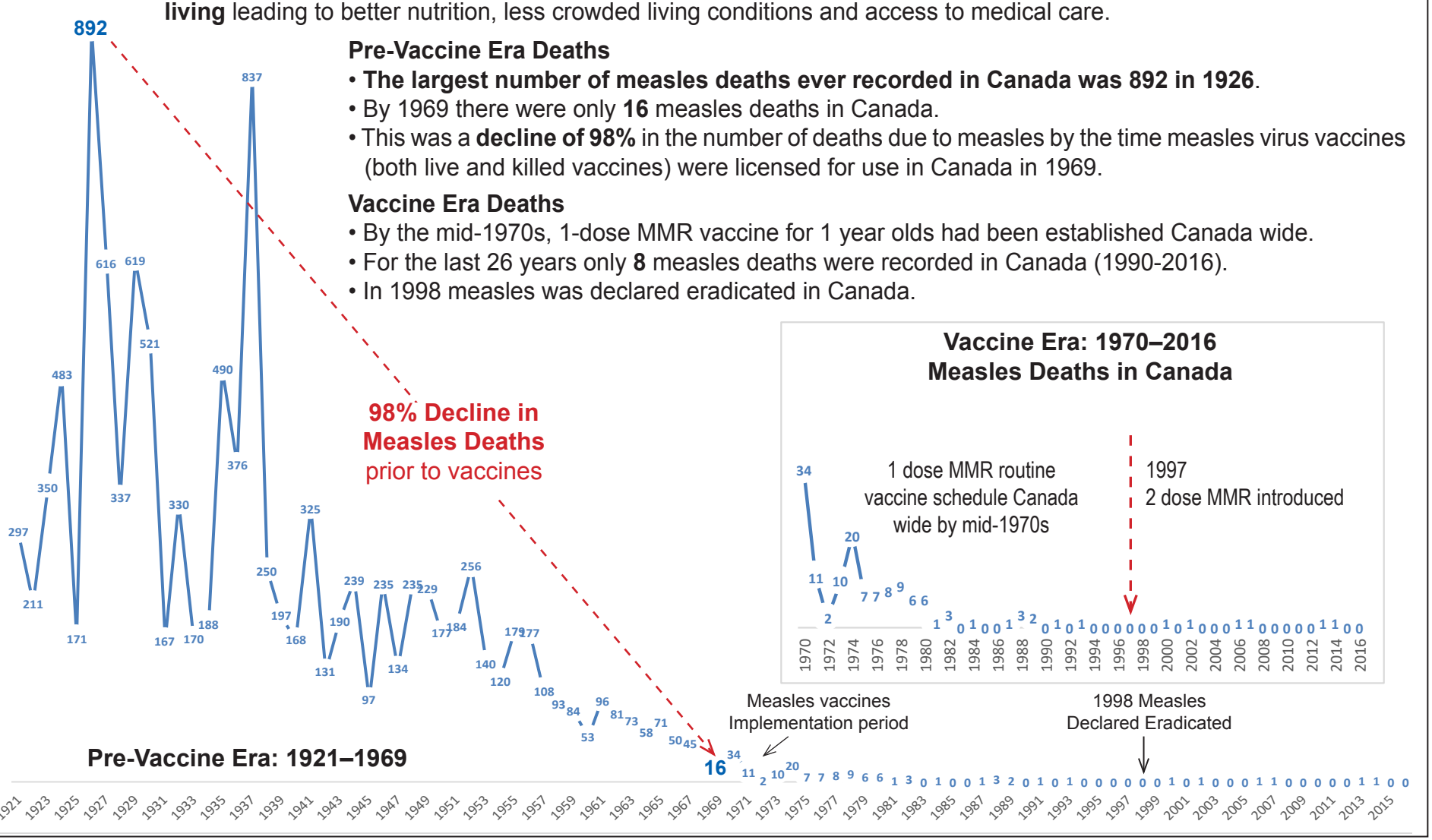
Decline from high death rates in the 1920s &1930s to the much lower rates in the 1940s, 50s and 60s has been attributed to **improved sanitation** (homes with running water, sewer systems and clean drinking water) and a **higher standard of living** leading to better nutrition, less crowded living conditions and access to medical care.

Pre-Vaccine Era Deaths

- **The largest number of measles deaths ever recorded in Canada was 892 in 1926**.
- By 1969 there were only **16** measles deaths in Canada.
- This was a **decline of 98%** in the number of deaths due to measles by the time measles virus vaccines (both live and killed vaccines) were licensed for use in Canada in 1969.

Vaccine Era Deaths

- By the mid-1970s, 1-dose MMR vaccine for 1 year olds had been established Canada wide.
- For the last 26 years only **8** measles deaths were recorded in Canada (1990-2016).
- In 1998 measles was declared eradicated in Canada.



Quote from October 2018 Globe and Mail article: ***Stop the hysteria over measles outbreaks*** —by Neil Rau and Richard Schabas:

"At current rates, **Canada can expect to see a death from acute measles about once every hundred years or so**. The borderline hysteria, fuelled by the media and public health, that greets a few cases is unwarranted."

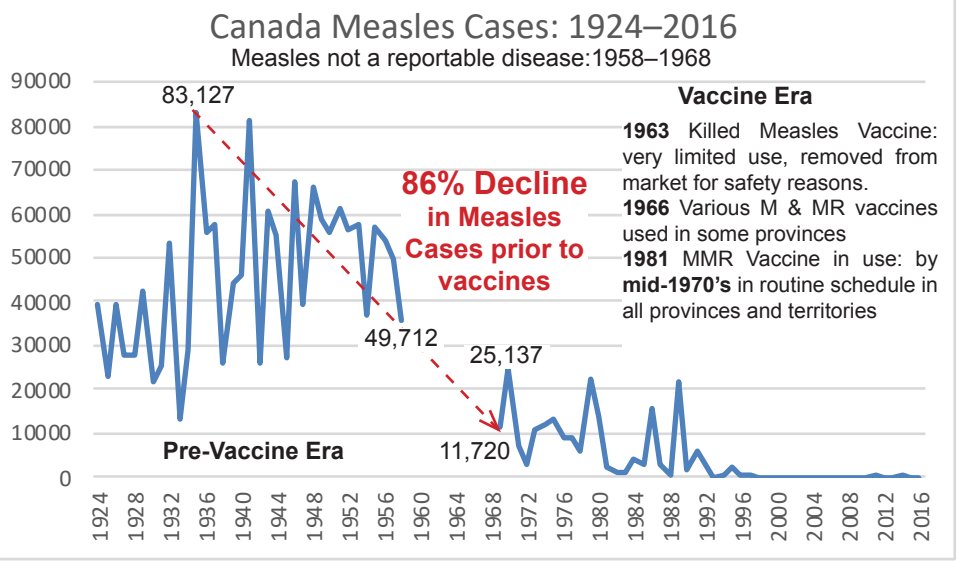
Dr. Richard Schabas is a former public-health physician and was Ontario's Chief Medical Officer of Health 1987-97.
Neil Rau is an infectious diseases specialist and medical microbiologist and an assistant professor at the University of Toronto.

Numbers of REPORTED Measles Cases Versus ALL Cases that Occurred

In the pre-vaccine era, almost everyone contracted measles, usually at a young age. By the age of 15, almost everyone had immunity to measles.

At least 90% of those cases were benign and medical care was not sought. Therefore, only about 10% of cases were ever reported. The data on serious measles complications/fatalities comes from those reported–sometimes hospitalized–cases, not from all cases of measles in the population. (Even today the Canadian Immunization Guide, says only 10% of measles cases lead to complications.)

For example in 1957, when there were 108 deaths on the previous mortality chart, there were 49,712 **reported** measles cases on the chart below. But if 49,712 is 10% of all cases, there were actually 497,120 cases in the population. In the mid-1950s, the birth cohort in Canada was at an all time peak of about 500,000 births per year. In at least the first year after birth all those babies were protected from measles by natural immunity passed on from their mothers and from some measles complications if their mothers were able to breastfeed. As this cohort moved out the home and into school or older siblings brought the virus home, they would have come into contact with the freely circulating measles virus. So, the total number of measles cases in 1957 at nearly 500,000 makes perfect sense. Birth cohorts moving into more social situations accounted for the cyclical nature of measles infections in the population.



Pre-Vaccine Era Case Fatality Rates

1935 Rates

Reported Cases: 490 deaths / 83,127 rpt cases = 0.6% or 6 deaths in 1000 reported cases

All Cases: 490 deaths / 831,270 all cases = 0.06% or **6 deaths in 10,000 cases**

1957 Rates

Reported Cases: 108 deaths / 49,712 rpt cases = .022% or 2.2 deaths per 1000 reported cases

All Cases: 108 deaths / 497,120 all cases = 0.02% or **2 deaths per 10,000 cases**

1970 Rates

Reported Cases: 34 Deaths / 25,137 Rpt cases = .014% or 1.4 deaths per 1000 reported cases

All Cases: 34 Deaths / 251,370 all cases = 0.01% or **1 death per 10,000 cases**

- **In 1935** living conditions were seriously degraded. The Canadian Encyclopedia describes the "Dirty Thirties" in Canada. The Great Depression and the central prairie droughts had taken a huge toll on Canada. In 1933 unemployment was at 30%, and western provinces were technically insolvent. Canada's birthrate dropped from 13.1 live births per 1,000 in 1930 to only 9.7 by 1937. "Although there were no official accounts of starvation, reports by medical authorities of scurvy and other diet deficiency diseases were common throughout the decade." One would expect higher measles death rates under these conditions.
- **In 1957**, few parents would have sought medical attention for a well-accepted, usually benign childhood illness. If medical attention was not sought, the case would neither be 'confirmed' nor recorded. In 1957 an act was passed to establish provincial health care plans to cover hospital care in Canada.
- **In 1970**, routine MMR vaccination had begun in some locations in Canada. There was a cyclical outbreak underway. Measles was still an accepted childhood disease and medical attention was rarely sought, so most cases would not be confirmed or reported. Universal healthcare in place.

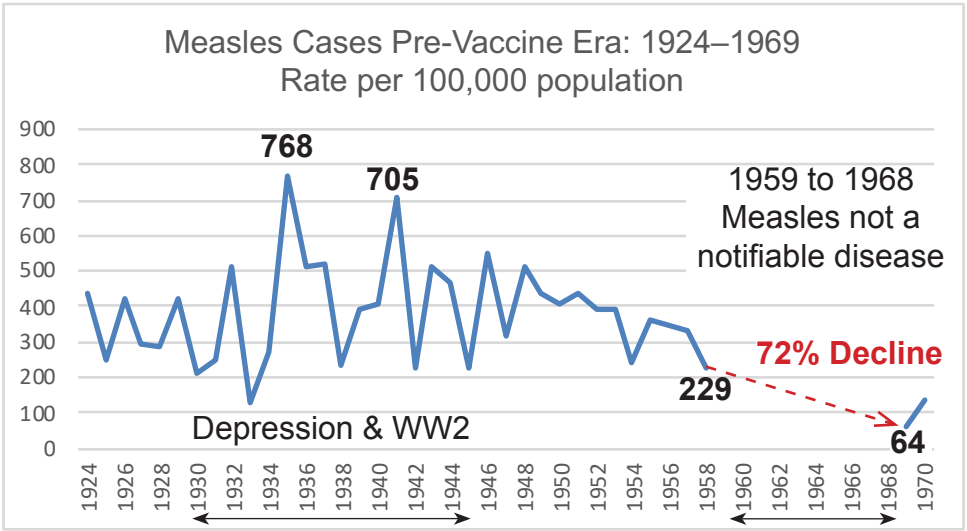
Source: Reported case data above is from Canadian Notifiable Diseases Database.

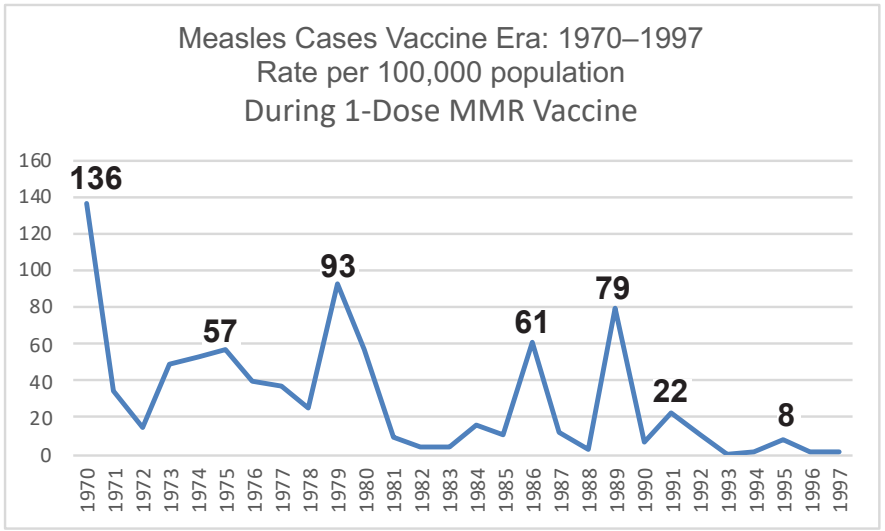
General Notes **for the Notifiable Diseases database state:** *"Cases reported **only represent a portion of all the cases in the population.**"* Following is an abbreviated list of the main reasons given: 1) **Not all people will seek medical attention, 2) Only confirmed cases of disease are included,** 3) Reporting of diagnosed cases is not complete, 4) Diagnostic tests may result in a false negative, 5) Interpretation of the characteristics of a disease may vary, 6) Not all provinces or territories are able to report on all diseases in every year.

RATES of Reported Measles Cases in Canada

So far we have looked at the **number** of measles cases in Canada over time. If we look at the **RATE** of measles cases per 100,000 population, the bias of changing population numbers is removed: The same number of cases of measles would affect a larger portion of a small population than of a large population. Thus, case **rates**–the proportion of people in a population affected–are more comparable than case numbers.

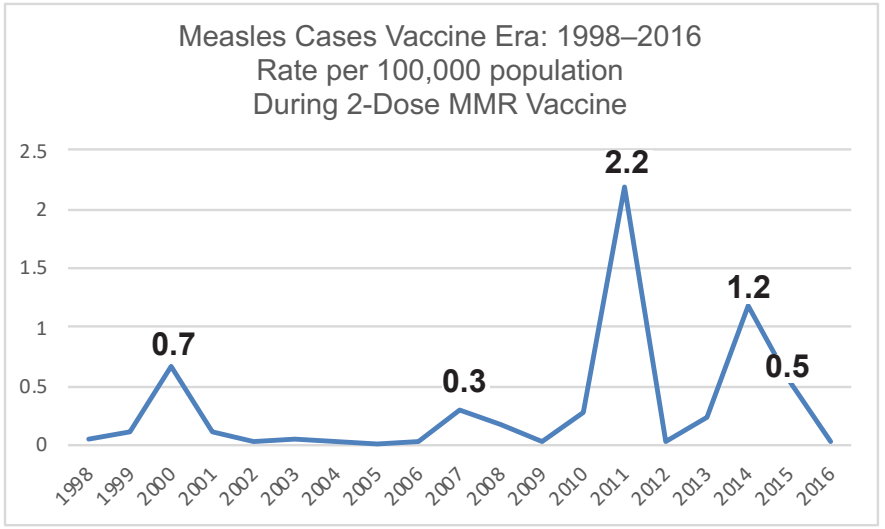
In the pre-vaccine era, measles case rates at the peaks of the cycles were greatly affected by the Great Depression and the Second World War. Following the war, in the prosperous 1950s, the case rates fell. In 1958 when the case rate reached 229 per 100,000 population, **public health officials removed measles from notifiable disease database. Presumably this action was taken as measles were no long deemed a public health threat to the population of Canada.** In 1969, when monovalent measles vaccines came into use in some provinces, measles was returned to the database. In the intervening ten years, **the case rate had fallen from 229 to 64 cases per 100,000 population, representing a 72% decline in measles case rates.**





The Vaccine Era Rate charts to the right show that rates rose and fell during the 1-dose MMR vaccine regime. In the last two years before the 2-dose MMR regime was introduced, **the rates were less than 2 cases per 100,000 population.** And following the introduction of the 2-dose MMR regime, the rate was practically zero, spiking to 1 or 2 cases per 100,000 during the 2011, 2014 and 2015 outbreaks. In 2016 the rate returned to zero. Both charts show the **cyclical nature of measles outbreaks remains**, although they now reflect imported cases from large out breaks in other regions of the world. Due to the recent large cyclical outbreaks in Europe and the Philippines, when the 2017–2018 Canadian data is released we can expect to see both case number and case rate increases.

So far we have established that whether looking at measles fatalities and case fatality rates or measles cases and case rates, it is obvious that **measles did not pose a serious health threat to children in Canada prior to the licensing and widespread use of the measles vaccine.**



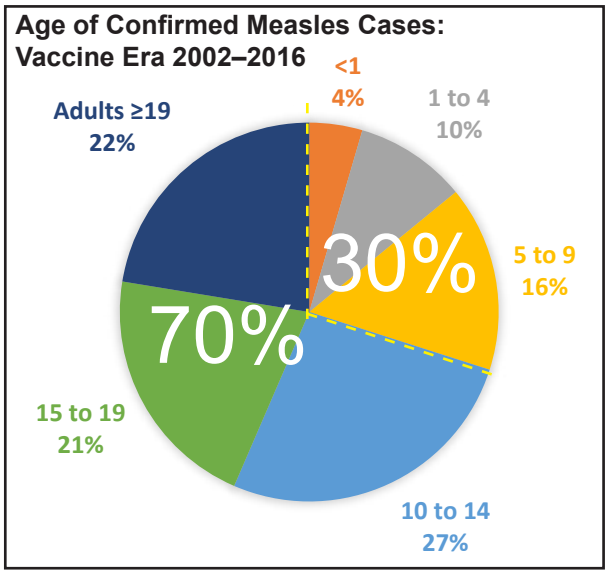
2002 to 2016: Who Is Getting Measles in Canada in the Vaccine Era?

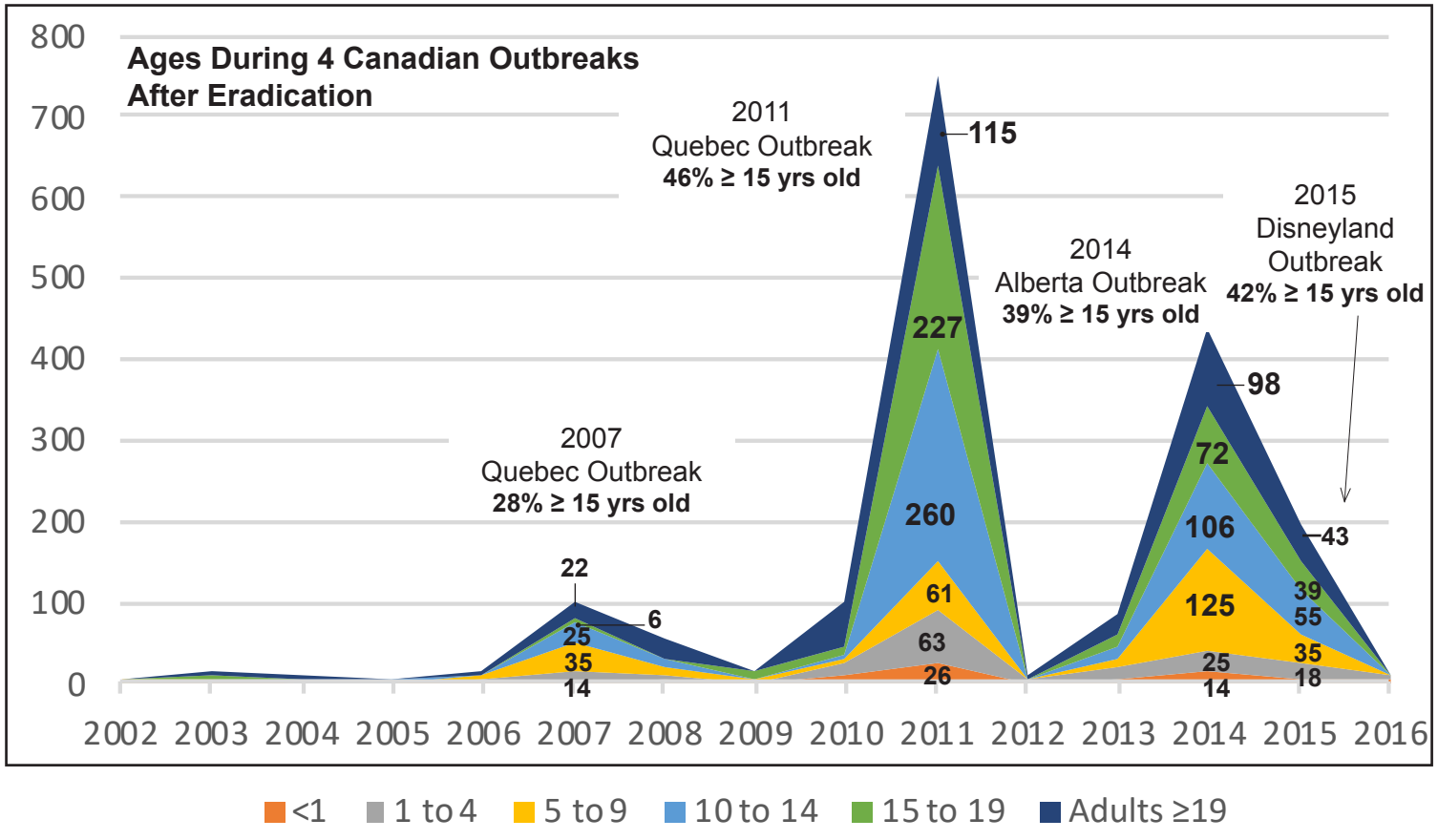
Since eradication, the Public Health Agency of Canada (PHAC) publishes the enhanced surveillance data of **confirmed** measles cases in Canada. The data shown in the two graphs here is from reports for the years 2002–2016. These cases include imported cases, cases linked to the original imported case and **cases of unknown origin**. Cases are **confirmed** by laboratory analysis of samples taken by healthcare professionals. Cases are linked by the measles strain found by the lab and demographics. In other words, family members are linked or members of religious communities are linked or links are made by exposure locations (schools, medical offices/hospitals, work places, airports, etc).

Children less than 1 year old (<1) are usually not vaccinated against measles. Children in the two age groups from 1 up to 9 years old may have received one MMR vaccine, two MMR vaccines or be unvaccinated. Age groups greater than 10 years old are assumed to be protected if born before 1970 due to natural lifelong immunity or if they have received 2 vaccine doses in childhood, although this assumption is proving to be misplaced as we shall see.

The pie chart shows that children older than 10 and adults account for **70% of measles cases** in the 15 years covered by these charts. In the pre-vaccine era proportions would be reversed (except children <1 would have had no cases). Children 1 to 9 years old would have accounted for almost all cases of measles. Some cases would have fallen into the next two age groups, but by 15 years old, more than 90% of the population had **life long immunity to measles.**

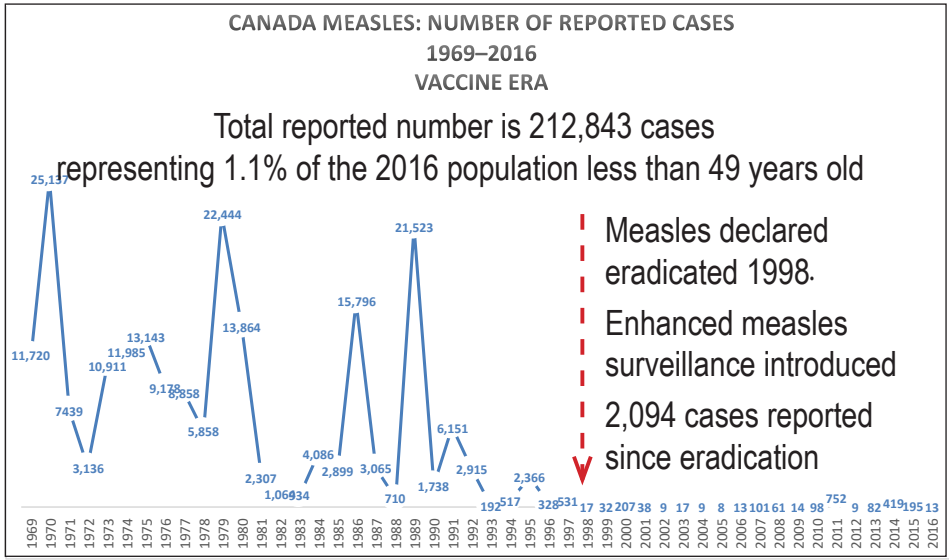
The second chart clearly shows that it is progressively older age groups who are contracting measles during outbreaks. What these charts show is exactly what has been predicted for immunization campaigns that target young children. In the first years of the campaign the rate of cases will drop off considerably as the children are vaccine-immune to the wild virus. But over time, as these groups age and lose that vaccine-induced, short term immunity, cases increase in older populations.





At the same time, the oldest adults with natural lifetime immunity are dying off. In 2019, adults born after 1970 (49 years old or younger) are susceptible to the virus. This age boundary will increase over time. In 20 years, only those over 75 will retain natural immunity to measles. In 2016, those 50+ years of age represented 38% of the population.

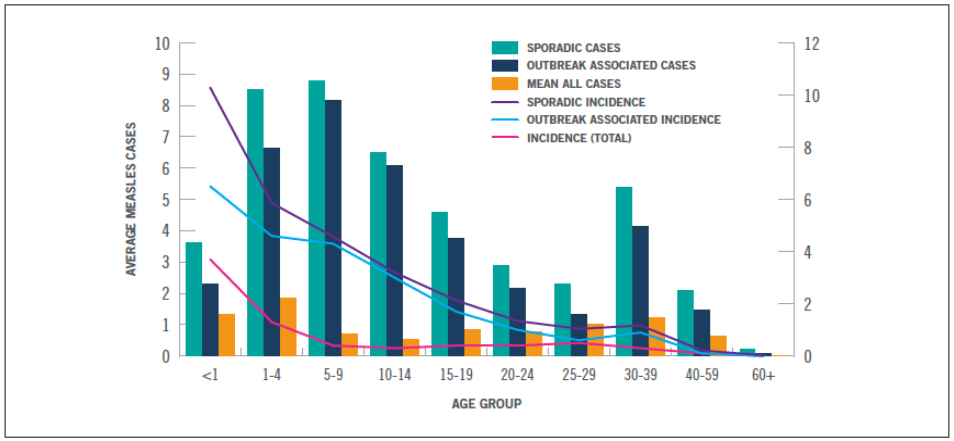
And of course, the small per cent of the population who have actually had a case of measles during the vaccine era will also be immune for the rest of their lives. Mothers in this group will pass immunity to their infants during the critical first years of life. The chart below from the Health Canada Communicable Diseases Database gives us a **partial estimate** of this number as 1.1%. It is only partial as it shows only reported, confirmed cases. It does not show the following: 1) any measles cases where medical attention was not sought, 2) vaccine-strain measles cases that are recorded only as adverse events on different databases, 3) mild measles cases (attenuated) that are not likely captured by surveillance as discussed in later sections of this report. **Taking these cases into account, perhaps a total of 2% of the 2016 Canadian population less than 49 years old also has life long immunity to measles.**



Rate per Age Group

The above charts looked at the **number of cases** by age group. The **rate or incidence by age group** of measles cases removes the age group population bias. The chart and text below are from the 2011 *PHAC Documentation and Verification Report on Measles Elimination in Canada*. The lines show incidence rates and the bars show number of cases from 1998 to 2010. As expected the youngest two age groups (with the smallest percent of the population) have the highest incidence rates.

FIGURE 12. Average number of cases and incidence rate of measles in Canada by age group and outbreak case classification, 1998–2010.



The demographic characteristics for this chart are described in the report as follows:

*"From 1998 to 2010, on average, the incidence rate of measles was highest among infants aged less than 1 year and decreased with age (Figure 12). However, **the mean age of cases reported was 15 years** (median=13, range: 2 months to 63 years), indicating that a large proportion of the disease burden came from children and adolescents."*

These are the very groups being targeted by vaccination programs: children vaccinated twice by age 7 and adolescents assumed to therefore have immunity.

Vaccine Efficacy

This increasing occurrence of measles in older age groups, many vaccinated in childhood, worries public health officials for two reasons. First, it places the **efficacy** of the measles vaccines in question due both to the number of non-responders to the vaccine and the waning vaccine immunity over time (so called *primary* and *secondary* vaccine failure, respectively). This can clearly be seen in the data now. Second, it also places the theoretical role of '**vaccine herd immunity**' in the elimination of measles into question.

The concerns with vaccine efficacy and herd immunity have been known for years, but were highlighted by the 2011 Quebec Outbreak. Not only did the outbreak last for an unprecedented 26 weeks, but the incidence rate shifted into older schoolchildren. Compare the published Quebec

Outbreak chart below to the one above showing average incidence rates in Canada for the 12 years prior to this outbreak. The shift in the incidence rate from the youngest age groups to the 12 to 17 year olds in the Quebec Outbreak is apparent.

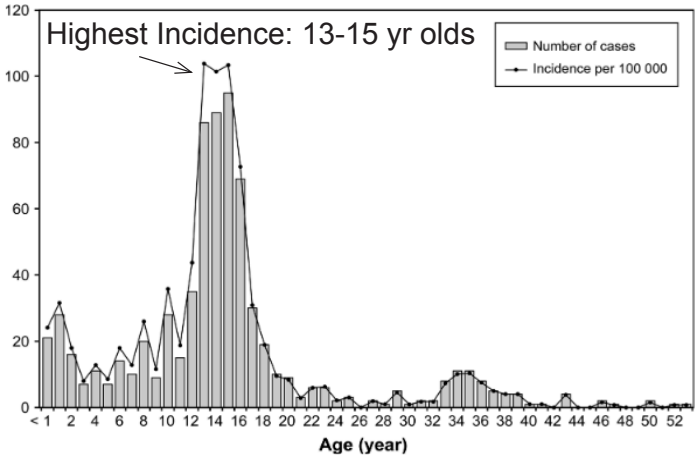


Figure 2. Number and incidence of measles cases by patient age.

A further concern developed when, upon **active case investigation,** it was discovered **there were as many measles cases among vaccinated as among unvaccinated school children**. As Dr. Gason de Serres of the Institut National de Santé Publique du Québec states in his 2013 paper on the outbreak:

"The largest measles epidemic in North America in the last decade, occurred in 2011 in Quebec, Canada, where rates of 1- and 2-dose vaccine coverage among children 3 years of age were 95%–97% and 90%, respectively, with 3%–5% unvaccinated."

Upon **active investigation** of schoolchildren, it was discovered that the **passive**, 'enhanced' surveillance system had seriously underestimated the number of vaccinated cases in the outbreak:

"The overall incidence was 9.1 per 100 000; the highest incidence was in adolescents 12–17 years old (75.6 per 100 000), who comprised 56% of case patients. Among adolescents, 22% had received 2 vaccine doses. ***Outbreak investigation showed this proportion to have been an underestimate; active case finding identified 130% more cases among 2-dose recipients.****"*

The introduction concludes: *"A chance superspreading event revealed an overall level of immunity* ***barely above the elimination threshold*** *when unexpected vulnerability in 2-dose recipients was taken into account."*

Regardless of referring to the outbreak as a 'chance superspreading' event, and the vulnerability of 2-dose recipients as 'unexpected', what the author is really concerned about is that the **elimination threshold** was almost breached. This threshold (the R factor) is explained in the next section.

Table 3 in the Quebec report gives the numbers/percentages for secondary vaccine failure after active investigation of cases in the school where the outbreak began. Prior to the active investigation there were 77 cases reported to the enhanced surveillance system. After the active investigation there were 110 cases. Combining 1-dose and 2-dose case numbers that include attenuated cases a total of **56 cases or 51% were vaccinated, while 52 cases or 47% were unvaccinated**.

It is a much trumpeted fact that vaccinated children who do get measles will have milder, so-called attenuated, cases. Their 'flu-like' symptoms of mild fever, runny nose and coughs may not be accompanied by a rash, and thus may not be counted as 'measles cases'. However, upon testing they will show an increase in titers against measles which means they have the measles virus in their system.

Despite the fact the Canadian Immunization Guidelines say 2-doses of MMR measles vaccine is "almost 100% effective", this report says something very different:

"This outbreak raises other important questions concerning the relative contributions of ***vaccine failure versus failure to vaccinate****. As previously reported for the high school where the large epidemic started, the vaccine effectiveness in 2-dose recipients was 95.5%…without attenuated cases and 94.2%…when attenuated cases were included.* ***This estimate is similar to the median value (94.1%) reported in a synthesis of 2-dose vaccine effectiveness studies.****"*

This means that almost 6% of recipients of 2-dose measles vaccination do not have a protective level of antibodies due to primary vaccine failure. It also means that even if 100% of children were vaccinated, at a minimum 6% will still be susceptible to measles. Further, as vaccinated children age, the effectiveness of vaccine immunity will diminish due to secondary vaccine failure–waning immunity– as the Quebec data shows happening.

This **underreporting** is fully discussed in the paper. In fact, Dr. de Serres writes, *"The significance of attenuated cases in vaccinated patients to the* ***overall goal of elimination*** *is unknown but will depend on the extent to which they contribute to total transmission; this contribution is limited now relative to that of unvaccinated case patients but may become more relevant as the elimination target is approached."*

In a later 2015 paper, Measles in Canada Between 2002 and 2013, this same author, de Serres, delves into the measles elimination issue in greater

depth. Explaining the results of the Quebec study (discussed above), the author states: *"Overall, 17% of cases were known to be vaccinated (8% with 1 dose and 9% with 2 doses). Therefore, the contribution of vaccine failures to the vulnerability of the population has been limited during that period.* ***However the accumulation of vaccinated but yet unprotected individuals over the years diminishes the margin of safety to maintain elimination****."*

What Does Elimination Really Mean?

The World Health Organization defines Elimination as "the absence of endemic measles transmission in a defined geographical area for ≥12 months in the presence of a well-performing surveillance system". To verify that elimination has been achieved three essential criteria must be met: 1) the interruption of endemic measles virus transmission for a period of at least 36 months from the last known endemic case, 2) in the presence of a high-quality surveillance system that is sensitive and specific enough to detect imported and import-related cases, and 3) genotyping evidence should support interruption.

The Public Health Agency of Canada (PHAC) established the high quality, enhanced surveillance system as one of the above requirements. However, it appears that like other surveillance systems related to vaccinations there are major defects in the way the system operates. Mainly we are referring to the fact that the surveillance system **underestimates measles infections in fully vaccinated cases, and therefore "overestimates the role of unvaccinated cases,"** as Dr. de Serres said in his 2013 report. This occurs due to the case definitions established for confirmed measles cases that do not take into account the attenuated symptoms of measles in the vaccinated that do not meet those case definitions, so **are not counted**. Now that larger outbreaks are occurring, public health policy makers are scrambling to not lose the elimination title, and the policy pillars on which it rests: mass vaccination and herd immunity.

Elimination is based on a numbers game. The numbers come from the enhanced surveillance system which genotypes a percentage of the reported cases to determine chains of transmission. A calculation, the R factor, is done to estimate the rate of transmission in the population. This R factor (reproduction number) must be less than 1 to maintain elimination status. The assumption is that if this threshold of 1 is not breached, the infection will die out.

The percent of cases genotyped varies. For example, *"During 2013, specimens were available to determine the genotype for 50 of 83 (60.2%) reported cases of measles."* And, "*During 2014, specimens were available to determine the genotype for 26.6% (n=111) of reported cases of measles. Cases with epidemiological links to a genotyped case are expected to have the same genotype, and so for surveillance purposes it is not necessary to genotype all cases from an outbreak."*

The R factor and the Surveillance System

There are some basic assumptions made in assessing elimination status based on the R factor. The American Report to WHO on Elimination Status specifically states: **"To verify elimination, a surveillance system must be capable of detecting endemic transmission."** Then this 2014 paper, Measles – The epidemiology of elimination, defines the parameters of detecting endemic transmissions as follows:

> "*Of much greater value than incidence is the early detection and careful categorisation of all measles cases by their source of infection; "imported", "import-related", "endemic" or "unknown".* ***Ideally 80% or more of all confirmed measles cases should be "imported" or "import-related". Where a large proportion of cases are of "unknown" origin it is challenging to confirm that ongoing local transmission is not occurring."***

Yet in the Canadian WHO report, *2011 PHAC Documentation and Verification Report on Measles Elimination in Canada,* covering 13 years of data (from elimination in 1998 through 2010) we read:

> "From 1998 to 2010, 87 cases (15%) were classified as imported and 227 cases (39%) as import-related (epidemiological link to an imported case). During the same period, there were 80 cases (14%) for which the source of infection was unknown and 191 cases (33%) epidemiologically linked to a case of unknown source."

So this means that only **53% were imported cases or import-linked, not the "80% or more" referenced above**. **With almost half the cases (47%) of unknown origin or unknown linked, it is difficult to see how Canada can confirm that ongoing local or endemic transmission is NOT occurring.**

Now back to the Dr. de Serres 2015 paper. In Canada for the years 2002–2013, there were an estimated 1171 measles cases resulting from 130 importation cases. In the US for the years 2001–2013 there were 1153 measles cases from 477 imported cases reported. Following is Dr. de Serres comparing this data and explaining why he is concerned with Canada's R factor:

"With approximately 5 times more importations than Canada, there were approximately the same total number of cases (1153 vs 1171), 83% resulted in no secondary spread, and only 3 outbreaks had 30 cases or

*more. The estimates of the effective reproductive number in the United States range between 0.62 and 0.66, substantially lower than the 0.86 found in Canada…The effective R expresses the epidemic potential in a specific population and combines the contagiousness of the disease (duration of shedding and capacity to infect), the proportion of susceptible individuals, and the mixing patterns in the population…**An R hovering at approximately 0.86 does not indicate that endemic transmission will resume in Canada in the short term, but 10% of importations are expected to result in outbreaks involving 25 cases or more. In contrast, with an R = 0.65, <1% of importations in the United States are expected to trigger outbreaks of this size."***

He continues: "An important limitation of this study is its reliance on passive surveillance, which is known to underestimate the number of cases, and despite great efforts since 1998, there is evidence of imperfect sensitivity of measles surveillance. For 37 (28%) of the 130 chains of transmission measles cases, the imported case was not identified, indicating that surveillance missed several cases."

And there is another result of elimination being a numbers game. Many large outbreaks occur clustered in closed religious communities. Even though these imported cases and transmissions are no threat to the general public, they effect the numbers on which the R factor is based. A 2004 Report (Katz, King, de Serres, et al) on Measles Elimination in Canada, showed a high R factor of 0.87 for the 4 years covered in that report. This was due in large part to 3 outbreaks in religious, non-vaccinating communities. Regarding this number, the authors state:

*"Of the 36 incidents reported in Canada during 1998–2001 for which the source of importation was known, only 6 resulted in transmission involving >4 cases. **Long chains of transmission have occurred exclusively in religious communities** that actively oppose or resist immunization efforts. Despite imported cases and outbreaks in certain religious communities that continued for several generations, **the absence of spillover into the general population supports our belief** that immunization coverage in the general population is high and that population immunity is more than adequate to prevent reestablishment of endemic transmission."*

They are actually caught in their own mathmatical estimations of transmissions that are strongly affected by these closed community cases with large chains of transmissions that do not affect the general population. Incredulously, they '*believe*' these cases did not spillover into the general population, not because the communities are **closed** (in other words there is little chance of exposure outside the community), but due to 'population immunity', i.e., high vaccination rates. Belief is not based on data, but is very useful to the agenda of mass vaccination and theoretical vaccine-induced herd immunity.

Prediction:
"Measles becomes a disease of immunized persons"

Large outbreaks as the direct result of mass vaccination programs were predicted by epidemiologists in advance of recent events. In the US, the highly respected Dr. G. A. Poland of the Mayo Clinic Vaccine Research Group concluded in a 1994 paper:

> *"**The apparent paradox is that as measles immunization rates rise to high levels in a population, measles becomes a disease of immunized persons.** Because of the failure rate of the vaccine and the unique transmissibility of the measles virus, the currently available measles vaccine, used in a single-dose strategy, is unlikely to completely eliminate measles. **The long-term success of a two-dose strategy to eliminate measles remains to be determined.**"*

His prediction was based on the results of his study as follows:

> *"We found 18 reports of measles outbreaks in very highly immunized school populations where 71% to 99.8% of students were immunized against measles. **Despite these high rates of immunization, 30% to 100% (mean, 77%) of all measles cases in these outbreaks occurred in previously immunized students.** In our hypothetical school model, after more than 95% of schoolchildren are immunized against measles, the majority of measles cases occur in appropriately immunized children."*

As to Poland's comment above that "*the long-term success of the two-dose strategy to eliminate measles remains to be determined*", we saw it wasn't working in the Quebec outbreak. And in the current outbreak in BC, as of the March 7, 2019 BCCDC Report, there were a total of 17 cases of measles with 10 cases in children aged 10 to 19 years and 6 cases in adults, with only 1 case in a child 1 to 4 years old. The vaccination status was as follows: 7 unvaccinated, 2 received 1-dose of MMR and 8 received 2-doses of MMR. This confirms again that **measles is occurring in an older, vaccinated population with 94% 10 years or older, and the majority of cases in the vaccinated with 59% vaccinated and 41% unvaccinated.**

In a later 2011 paper, Dr. Poland takes on the subject of both primary and secondary vaccine failure of the MMR vaccine: *"Failure to vaccinate is a serious socio-cultural issue, and significantly hampers public health goals…Receiving less attention, however, is the issue of vaccine failure. While the current vaccine is acknowledged as a good vaccine, we and*

others have demonstrated that the immune response to measles vaccine varies substantially in actual field use. ***Multiple studies demonstrate that 2–10% of those immunized with two doses of measles vaccine fail to develop protective antibody levels****, and that immunity can wane over time and result in infection (so-called secondary vaccine failure) when the individual is exposed to measles."*

The implication of this statement is that the sum of both primary vaccine failure (non-response to the vaccine) and secondary vaccine failure (waning) leads to measles cases in the vaccinated population.

Vaccine Herd Immunity Theory

An excellent 2014 article on herd immunity and vaccine failure by epidemiologist Tetyana Obukhanych, PhD, is found on the VCC website (and on her own website). In the article she discusses the waning of measles vaccine virus neutralizing antibodies in the population over time.

She says, "***The herd immunity theory is based on a faulty assumption that vaccination elicits in an individual a state equivalent to bona fide immunity (life-long resistance to viral re-infection)****. As with any garbage-in-garbage-out type of theory, the expectations of the herd immunity theory are bound to fail in the real world."*

We note that the Measles Chapter in the *CDC Pink Book* (2015 Edition) still erroneously states: *"Although the titer of vaccine-induced antibodies is lower than that following natural disease, both serologic and epidemiologic evidence indicate that vaccine-induced immunity appears to be long-term and* ***probably lifelong in most persons.****"* This is simply not true as the real world is proving.

Two specific studies referenced in Dr. Obukhanych's article *Herd Immunity: Can Mass Vaccination Achieve It* are of particular interest. In both, levels of neutralizing measles antibodies after vaccination were evaluated in scientifically defendable ways. In the first study, in 1985 a blood drive occurred on a university campus just prior to a measles outbreak. Therefore, pre-outbreak serum titers from the blood drive could be correlated with students' responses to the measles outbreak. Dr. Obukhanych explains the outcomes of the Boston University measles outbreak study as follows:

"(a) In all previously vaccinated students who experienced full-blown measles, pre-exposure measles-neutralizing titers were below 120;

(b) ***Seventy percent of students*** *whose pre-exposure titers were between 120 and 1052, ended up having a serologically confirmed measles infection, but since their altered disease symptoms did not conform to the clinical measles case definition,* ***they were categorized as non-cases during the outbreak****;*

(c) Students with pre-exposure titers in excess of 1052 were for the most part protected both from the typical clinical disease as well as the measles virus infection."

The second CDC study was carried out **over a period of years** measuring blood titers in children following 2-dose administration of the measles vaccine.This study puts a duration time on childrens' vaccine-induced immunity. The study describes the participants as *"Children who received the second measles vaccine dose at kindergarten (aged 4-6 years) or middle school (aged 10-12 years) in 1994 or 1995. Serum samples were collected periodically during a 10-year period for the kindergarten group and a 5-year period for the middle school group."*

The study also states:

"One month after MMR2, titers significantly increased for each study group, but beyond 6 months titers were not significantly different from pre-MMR2 levels." And,

"*By study end, 4.9% had low titers [<120]…with no significant difference in geometric mean titers between kindergarteners (641 mIU/mL) and middle schoolers (737 mIU/mL) when both groups were aged 15 years*."

This means the majority of 15 year olds were suseptible to measles infection. Compare this to the pre-vaccine era when by 15 years old, more than 90% of the population had **life long immunity to measles.**

Dr. Obukhanych explains the results of this study as follows:

"*For the majority of MMR-vaccinated children, measles-neutralizing titers fall between 120 and 1000 by the time they reach adolescence.* ***These children can acquire the measles virus upon exposure and be potentially contagious during an outbreak, although they might experience a modified course of disease and not be labeled as measles cases for the purposes of reporting.***"

She continues,

"*In fact, during the Boston University measles outbreak, many students with pre-exposure titers between 120 and 1052, who were officially categorized as non-cases, had some of the viral disease (flu-like) symptoms…****These sick "non-cases" ended up with high post-exposure serum titers for measles, just as the typical disease cases did, which is indicative of viral replication and, hence, transmission.***"

The Results and Conclusion sections of this study state the obvious:

"Projections suggest that the proportion of persons with low antibody levels may increase over time."

"Declining titers suggest the need for vigilance in ensuring

disease protection for the vaccinated population."

Considering all the above information, Dr. Obukhanych concludes:

"***To prevent an outbreak, 70-95% of the population, according to very broad theoretical estimates, has to be truly immune—that is,*** **resistant to viral infection*****, not just protected from developing the full range of symptoms that conform to the accepted clinical definition of the disease. However, 100% vaccination compliance can at best make only a quarter of the population become resistant to viral infection for more than a decade. This makes it apparent that stable herd immunity cannot be achieved via childhood vaccination in the long term regardless of the degree of vaccination compliance.*****"**

Obviously Dr. de Serres, should not have been surprised by vaccine waning and the number of attenuated cases of measles, nor should he have left virus transmission from these cases as an open question.

If the reports above and others like them had been embraced by the medical community in the 1980s and 1990s, the foolish attempt at measles eradication with its attendant destruction of life long immunity and demonization of both the disease itself and those who choose not to vaccinate would not be the milieu we find ourselves in today.

More Flies in the Ointment

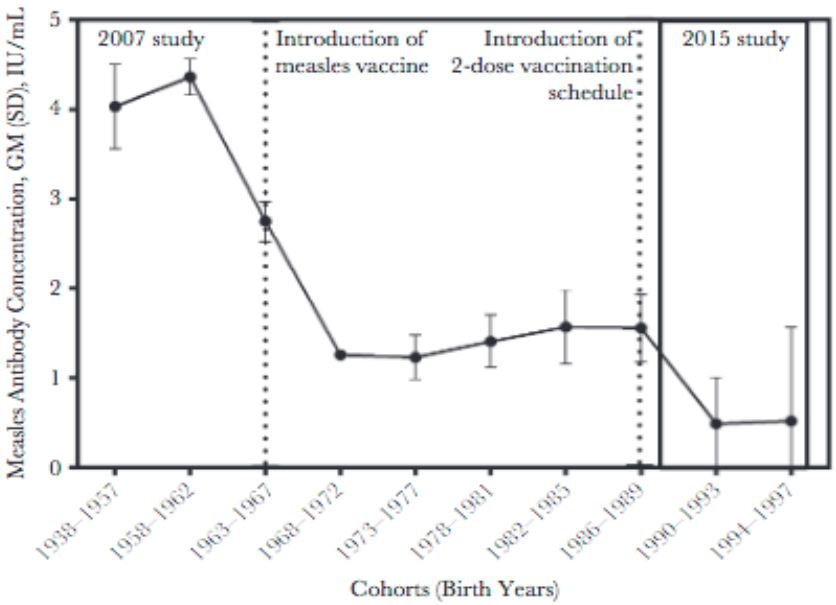
Fly in the Ointment 1: Immunoglobulin

Recently Dr. Obukhanych commented on the following graphic from a 2017 study that shows how much protective measles titers in blood plasma have waned from the prevaccine era through the one-dose vaccine era and into the 2-dose vaccine era, confirming the above two studies. The figure shows that prior to measles vaccination, blood plasma from those born between 1938 and 1962 contained from 4 to 4.5 IU/ml measles neutralizing antibodies. During the 1-dose vaccine era (people born between 1968 and 1989) antibodies dropped to between 1.25 and 1.5 IU/ml. After the 2-dose vaccine was introduced the levels dropped again to less than 1 IU/ml.

A population with such low protective measles antibodies will not respond well during outbreaks, making it very difficult for public health officials to control the spread of the disease. This of course threatens Canada's measles elimination status as discussed above.

The abstract explains why this study by manufacturers of immunoglobulins arose:

"We report a screen of plasma donors confirming that widespread use of childhood measles vaccination since 1963 resulted in a decrease in average measles virus antibody titers among plasma donors, which is



reflected in intravenous immunoglobulins (IVIGs). ***The measles virus antibody titer, however, is a potency requirement for IVIGs, as defined in a Food and Drug Administration regulation****. To mitigate the decline in measles virus antibody titers in IVIGs and to ensure consistent product release, revaccination of plasma donors was investigated as a means to boost titers. However, revaccination-induced titer increases were only about 2-fold and short-lived."*

In other words, re-vaccination of donors was not a solution to the problem of immunogobulins (made from blood plasma) that now offer less protection than they used to for pregnant woman, infants and the immunocompromised when exposed to measles. PHACs solution to the problem of "measles post-exposure prophylaxis" was to double the dose of immunoglobulin for pregnant mothers and infants! Their discussion begins as follows:

"Human immune globulin (Ig) products are currently recommended as post-exposure prophylaxis (PEP) for measles in certain susceptible groups. However, successful measles vaccination programs in North America have led to low circulation of measles virus and most blood donors now have vaccine-derived immunity. Concurrently, the concentrations of anti-measles antibodies in human Ig products have shown trends of gradual decline and previously recommended doses and routes of administration may no longer be optimally protective." Notice how this discussion manages to distance the effect of vaccines on levels of anti-

measles antibodies in the blood? Also, they characterize the decline in anti-measles antibodies as 'gradual'. This is only the case if one ignores the steep decline from prevaccine levels of anti-measles antibodies.

PHAC now recommends that exposed infants less than 6 months old are to receive multiple injections of 0.5/ml each to a maximum dose of 15ml. That is a lot of injections! Pregnant women and immonocompromised persons over 30 kg are recommended to take intravenous immunoglobulin as injections will not offer them full protection. This means hospital or specialized clinic visits. Exposed infants older than 6 months are to recieve an MMR vaccine. So, vaccine programs that made pregnant mothers and infants less than one year old suseptible to measles have also placed further burdens for medical care on these groups. The loss of true herd immunity is terribly sad for mothers and their infants. Infants and babies less than a year old, who in pre-vaccine days were protected by their mother's antibodies through placental and breast milk transfer, are now to suffer injections as well as any side effects from those injections for a now questionable level of protection. And the same goes for pregnant women and their unborn children who may also suffer due to the now deficient immunoglobulin products from a twice-vaccinated population.

Fly in the Oinment 2: Vaccine-Strain Measles Cases

On March 5, 2019 Dr Mercola commented on a paper from the Journal of Microbiology as follows:

> "When you hear about reported cases of measles, did you know that a portion of those affected may be experiencing a reaction to the live virus measles vaccine? In a Journal of Clinical Microbiology paper, researchers describe new technology developed to 'rapidly distinguish between measles cases and vaccine reactions to avoid unnecessary outbreak response measures such as case isolation and contact investigations.' According to this paper: "*During the measles outbreak in California in 2015, a large number of suspected cases occurred in recent vaccinees. Of the 194 measles virus sequences obtained in the United States in 2015, 73 were identified as vaccine sequences."* In other words, about **38 percent of suspected measles cases in the 2015 Disneyland measles scare in California were actually vaccine-related and not caused by transmission of wild-type measles."**

The acknowledgements in this 2016 paper state: *"This study was supported by the Public Health Agency of Canada and the US Centers for Disease Control and Prevention."* Four of the authors on this paper are from PHAC's National Microbiology Laboratory in Winnipeg, Manitoba. Four are from the CDC's Division of Viral Diseases in Atlanta, Georgia and the two are from the Robert Koch Institute's Unit of Measles, Mumps, Rubella, and Viruses Affecting Immunocompromised Patients, in Berlin, Germany. The Koch institute is a a German federal government agency like PHAC and the CDC. The authors are from the three laboratories who tested the new genomic sequencing technology discussed in the paper.

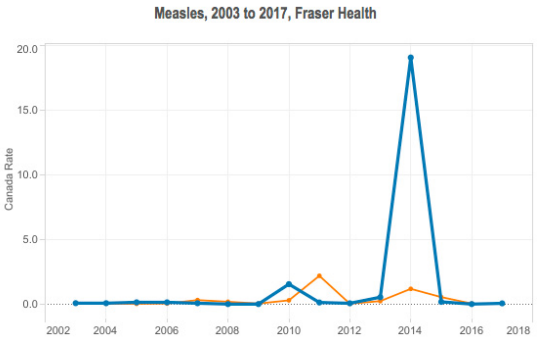
Here is the full **Introduction** to the paper:

> *"Endemic transmission of measles virus (MeV) was interrupted in the Americas in 2002 (1), but since then, importations of measles from areas of endemicity have caused frequent and sometimes large outbreaks (2–6) and a recent transitory suspension of the elimination status* [in Brazil] *(7). An important component of the public health response to a measles outbreak is vaccination of unimmunized contacts (8).* ***Since approximately 5% of recipients of measles virus-containing vaccine experience rash and fever which may be indistinguishable from measles*** *(9), it is very important to identify vaccine reactions to avoid unnecessary isolation of the patient, as well as the need for contact tracing and other labor-intensive public health interventions. Recent measles outbreaks in the Canadian provinces of Alberta and British Columbia have emphasized the need for rapid differentiation of vaccine reactions (18, 19) from reactions to infection with the wild-type virus. During the measles outbreak in California in 2015, a large number of suspected cases occurred in recent vaccinees (3). Of the 194 measles virus sequences obtained in the United States in 2015, 73 were identified as vaccine sequences (R. J. McNall, unpublished data). In contrast, only 11 of 542 cases genotyped in the National Reference Center for Measles, Mumps, and Rubella in Germany were associated with the vaccine virus. Genotyping is used to confirm the origin of an outbreak and to exclude endemic circulation, but it is also the only way to distinguish vaccine strains from wild-type viruses."*

It would appear that public health officials are now caught in another vaccine treadmill of their own making. Larger outbreaks of longer duration threaten the country's 'vaccine elimination status'. So, they want to keep case numbers and transmission counts to a minimum. Yet during these outbreaks the increased vaccination rates actually can increase the number of measles cases, unless they can sort those case out and discard them, thereby saving both elimination status and high costs to the public health response system.

As far as we knew vaccine-strain illness cases were not reported to the Canadian enhanced surveillance system, although reading through the references in the genotyping paper now leaves this in doubt. For example,

the report's reference (18) tells a different real world story about how cases are handled by public health in outbreak situations.



Graphic source: BCCDC Dashboard

In October 2013, during an outbreak in the Fraser Valley in BC, a 2-year old child presented with measles **37 days** after receiving a measles vaccine. There had been recent measles cases in the area, and lab work showed the same B3 strain of measles for this child. So public health officials proceeded with tracking contacts:

> *"**Public health measures:** While genotyping results were pending, case management proceeded as for a wild-type measles infection. Public health follow-up lead to the identification of 87 contacts. As per guidelines, post-exposure prophylaxis was provided within six days of exposure to 45 susceptible contacts (41 contacts with a history of one dose of MMR vaccine received an additional MMR dose, and 4 contacts with no history of MMR vaccine or with contraindications to MMR vaccination, received immunoglobulin).*

The **Discussion** says:

> *"The incubation period of measles is typically eight to 12 days from exposure to rash onset, with a range from seven to 21 days. **Public health interventions are based on this established incubation period** for determining the epidemiological links between cases and for estimating periods of exclusion for contacts in high risk settings."*

The report **Concludes**: "

> *Heightened surveillance and awareness of measles because of the ongoing outbreak likely contributed to the identification of this case**… it likely represents the existence of additional, but unidentified, exceptions to the typical timeframe for measles vaccine virus shedding and illness**."*

Obviously, we don't really know how many vaccine-strain cases have been counted when the surveillance system testing and public health protocols may be excluding them from being recognized, especially during outbreaks when public health is in "heightened awareness" to contain the outbreak.

The 2011 *PHAC Documentation and Verification Report on Measles Eliminations in Canada* mentions vaccine-strain cases after explaining that data for *"special cases that makes classification difficult"* is not collected on a national basis, but for this report they requested the information from provinces and territories and received the following information: *"There were…14 vaccine-related cases reported in Alberta during 1998–2010. In addition, Ontario reported 11 postvaccination cases from 2005-2010. **The data were not available from the remaining 10 provinces/territories**."*

This statement does not make sense. Vaccine-related measles cases are reported nationally as AEFIs (adverse events following immunization) to another surveillance system **run by PHAC itself**! Why didn't they get the information from that database? It also does not clarify whether some or all of the 25 cases were among cases reported by the enhanced surveillance system.

Why Eradication?

In 1962 in the USA, the then head of the CDC's epidemiology unit, Dr. Alexander Langmuir, in a paper titled The Importance of Measles as a Health Problem, described measles as a "**self-limiting infection of short duration, moderate severity, and low fatality**." But he concluded the paper by saying: *To those who ask me, "**Why do you wish to eradicate measles?**," I reply with the same answer that Hillary used when asked why he wished to climb Mt.Everest. He said, "Because it is there." To this may be added,"…and it can be done."* As Dr. Langmuir indicated, the **quest to eradicate measles** was a desired goal for public health officials as work on measles vaccines was progressing in the 1960s. However, it was not something that parents or many health practitioners were concerned about. Were the vaccines needed? Would they be used?

The history of the development of various measles vaccine is not particularly well known now, but as with other childhood vaccines dead and injured children were left in the wake. An excellent overview of the early development of measles vaccines is found in two papers.

The first is a 2013 Dutch paper, Measles Vaccination Before the Measles-Mumps-Rubella Vaccine. This paper begins: *"At the beginning of the 1960s, it was clear that a vaccine against measles would soon be available. Although measles was (and remains) a killer disease in the developing world, in the United States and Western Europe this was no longer so. **Many parents and many medical practitioners considered measles an inevitable stage of a child's development. Debating the desirability of measles immunization, public health experts reasoned differently.**"*

Market Opportunity vs. Public Health Needs

The Dutch paper is particularly interesting as it contrasts the American approach to vaccine policy in this era with the more cautious approach in the UK and other European countries. In doing so, it also references the second

paper of interest, namely the work of Jeffrey Baker, MD, PhD, in his 2000 paper, Immunization and the American Way: 4 childhood Vaccines. (The section on measles vaccine is titled, *Measles: Academic Research and the Pharmaceutical Industry).*This paper leads one through the development of the diphtheria, pertussis, polio and measles vaccines, the 'accidents' (dead and injured children) that occurred and some very unethical practices as well. It is essential reading to understand vaccine development processes.

The Dutch authors in referencing Baker's work state: "*[W]hereas US vaccine development and implementation were marked by a "current of urgency", the more cautious British set much higher standards for the evidence required to prove the safety and effectiveness of a new vaccine before deciding on its introduction."* Both papers are well worth a read to understand the 'American Way' of producing vaccines and implementing mass vaccination campaigns that now dominates the global vaccine landscape. And also to understand the birth of vaccine hesitancy, which develops in populations where, as the Dutch paper describes, *"Vaccine development and production…tailored in the first instance to national health care needs and only in the second instance to market opportunity, has come to seem an anachronism."* In other words, the goals of public health have taken a backseat to market opportunity in today's vaccine establishment. This induces lack of public trust.

The recent work of the Informed Consent Action Network (ICAN) in the US has confirmed for all to see that vaccines developed for children's vaccine schedules were not 'tailored in the first instance to public health needs'. If they had been, the vaccines would have been properly safety tested. Instead all the childhood vaccines have been approved with unscientific 'safety' testing that never used placebos in control groups (if they even had control groups). Such unethical science simply creates market opportunity.

According to HHS's childhood vaccine schedule, babies receive a fourth injection of most vaccines in the table above as well as one or two injections of each of the following additional vaccines between 6 months and 18 months of life:

HHS'S CHILDHOOD SCHEDULE: 6 TO 18 MONTHS OF LIFE			
VACCINE TYPE	TEST GROUP RECEIVED	CONTROL GROUP RECEIVED	PLACEBO CONTROL?
Hepatitis A	**Havrix** (GSK)[29]	Engerix-B	NO
	Vaqta (Merck)[30]	AAHS and Thimerosal	NO
MMR	**M-M-R II** (Merck)[31]	No control group	NO
Chicken Pox	**Varicella** (Merck)[32]	Stabilizer and 45mg of Neomycin	NO
Combo Vaccine	**ProQuad** (Merck)[33]	M-M-R II and Varivax	NO
Flu[34]	**Fluarix (IIV4)** (GSK)[35]	Prevnar13, Havrix and/or Varivax or unlicensed vaccine	NO
	FluLaval (IIV4) (ID Bio)[36]	Fluzone (IIV4), Fluarix (IIV3) or Havrix	NO
	Fluzone (IIV4) (Sanofi)[37]	Fluzone (IIV3)	NO

The annotated chart above is only one of the charts from ICAN's letter to the US Department of Health and Human Services (HHS), who according to legislation are the watchdog for vaccine safety testing, a role they have never properly fulfilled. The MMR vaccine had NO control group and MMRV (ProQuad®) had a control group that did not receive an inert placebo, but rather two other vaccines (MMRII & a varicella vaccine).

VCC Vaccine Safety Report 3 (pages 8-24) shows Canadian authorities referencing the American licensing of childhood vaccines as a basis for Canadian licenses. As the CDC goes, so goes PHAC. The ramifications of these practices are evidenced in the injuries caused to children by vaccines. See the AEFI section below for details. The role of WHO in lowering AEFI standards is also detailed in VCC Safety Report 7. Hiding AEFIs makes the 'elimination' agenda far more palatable.

WHO's Eradication Plan

After two failures at eradication of measles (see Baker's report above), WHO and its supporters conceived and implemented the "Measles Eradication" plan in the early 1990s with Canadian health officials prominently at the table. In 1998, Canada was the first country to declare eradication under this plan, followed quickly by the USA in 2000. In late 2016, WHO declared measles eradicated in the entire Region of the Americas. (The Region included all countries in the Caribbean, Central and South America, as well as Canada, the USA and Mexico.)

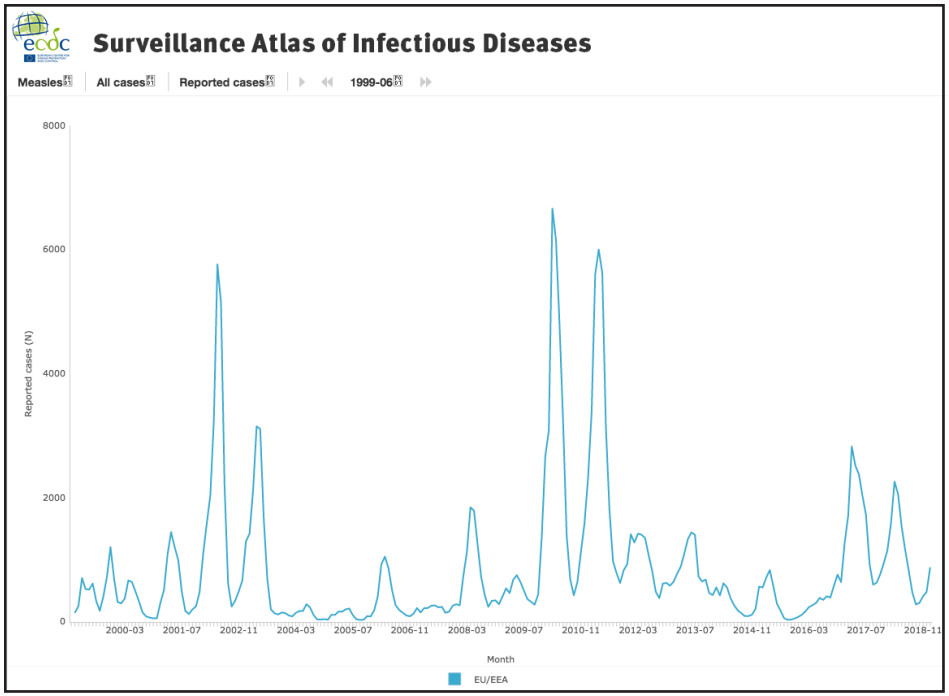
However as is plainly evidenced by the number of measles cases occurring in outbreaks, the terms "eradication or elimination" in public health parlance do not mean what most people think they mean.

To understand the parameters of the game being played, PHAC's annual, measles surveillance reports can be examined. The *2013 Documentation and Verification Report for Measles Elimination* also from PHAC covers the years 1998 through 2013. (It must be requested by email to see the data, as only the summary is available on-line.) As the report says,

"This is essentially Canada's ***technical report card****, detailing the country's progress in controlling and eliminating measles and rubella. Achievements are assessed against performance indicators set by PAHO/WHO for surveillance, laboratory capacity, and immunization through review of data collated by the Centre for Immunization and Respiratory Diseases, the National Microbiology Laboratory, and the Canadian Immunization Committee, which represents the ten provinces and three territories. The last section of the report makes recommendations as to what is required to sustain elimination in Canada over the years to come."*

Battling both failure to vaccinate and vaccine failure, the public health agencies wish to maintain eradication status. And they can only do so if a wild strain of measles such as those flourishing elsewhere on the globe,

does not gain a foothold in Canada again and replicate itself beyond a twelve month period of time. Below is a chart from the European CDC of measles outbreaks over last two decades, 1999–2018.



But it really is all a numbers game of estimates from mathmatical models. In truth, it is very difficult to tell if the goals are actually being met due to failures both of the vaccine itself and of the surveillance system. Because the majority of imported cases have been brought into the country by unvaccinated persons, this is still the publicly discussed target for controlling importations. But as you have seen, public health officials and vaccine manufacturers know full well this is a losing game. However, we do not doubt they will play it to the end.

As we have detailed above, Canada is approaching an R value that will mean its "elimination" status could be revoked. Elimination is impossible with most of the world still having endemic measles moving through their populations and Canadians traveling to those countries and foreign visitors coming to Canada.

Despite the fact that higher measles titers in successive booster shots only last for 6 months before declining **below** the pre-shot baseline levels, more shots will no doubt be recommended in ever increasing quantities for adolescents and adults in order to meet the WHO's misguided quest for 'eradication through vaccination'.

Besides demonizing measles to scare parents into vaccinating their children, the other message from the proponents of vaccines, a message that must be maintained at all costs, is "vaccines are safe and effective". We have seen just how **ineffective** measles vaccines really are. Now the safety of vaccines must be addressed.

Vaccine Safety: Adverse Events Following Vaccination

We know from the ICAN information referenced above that no scientifically valid pre-license safety testing has ever been done on any childhood vaccines, including the measles vaccine. **Thus, there is no pre-license safety net.**

In order to monitor **post-license safety of vaccines** in the real world, adverse event reports are collected by two passive surveillance systems. Since 1987, two vaccine safety surveillance systems operate in Canada. These systems report a tiny fraction (perhaps 1%) of adverse events occurring in the entire population.

The Canada Vigilance database administered by Health Canada is available to the public on-line. Consumers and health professionals submit reports voluntarily. Manufacturers and distributors of products (MAHs) are required to submit **serious adverse event reports** by the Food and Drugs Act Regulations. Serious adverse events are those that lead to death, life-threatening events, hospitalization, disability or birth defects.

The second adverse events database, Canadian Adverse Events Following Immunization Surveillance System (CAEFISS) is administered by PHAC. This is largely a passive reporting system with adverse events reports (both serious and non-serious) submitted by most provinces and territories via their public health departments. About half of the Serious Adverse Event reports for children on the CAEFISS database are reported by an active reporting system found in most children's hospitals across Canada. Approximately 85% of Canadian adverse event reports are held by PHAC in the CAEFISS database system. This data is only available to the public through sporadic and increasingly uninformative reports from PHAC.

See the VCC Vaccine Safety Reports (2015-2019) on our website for complete information on these two surveillance systems including analysis of annual adverse event report data and critique of the system transparency.

Measles Vaccines

Public health officials disclaim the very existence of vaccine-strain illnesses, which are often clinically indistinguishable from wild-strain measles cases. This example from ImmunizeBC explains to a worried parent asking, *"Can my 1 year old get measles from MMR vaccine.....he is covered in a huge rash had shot 10 days ago."* Answer: *"The MMR vaccine cannot cause measles*

disease in people with healthy immune systems. However, a rash that looks like measles can be a side effect of the MMR vaccine and occurs about 7 to 12 days after getting the vaccine. The vaccine rash is non-infectious and will resolve on its own."

As we have seen, nothing about this statement is necessarily true. Vaccine-strain illness do occur after live virus and bacterial vaccines; rashes are systemic events and can be serious; and we also know that the child could be infectious. By defining such occurrences as vaccine side effects or adverse events (AEFIs), vaccine strain illnesses and complications are largely 'disappeared'. The only documentation we have found of such occurrences is in the Ontario 2017 Vaccine Safety Report that specifically mentions vaccine-strain cases (page 18) when it discusses AEFIs that report rashes as follows:

> *"Of the 45 AEFI reports specifying rash occurrences within the temporal limits of 5 to 42 days [after vaccination], four were confirmed as vaccine-strain by genotyping, including three that were measles vaccine strain (**all following MMR vaccine, one serious** - see further description in Serious AEFIs) and one varicella vaccine strain (**following varicella vaccine**), which was classified as non-serious."*

We also know from a 2011 paper, Adverse Events following 12 and 18 Month Vaccinations, by Kumanan Wilson of the Ottawa Hospital Research Institute, that **1 in 168 babies had emergency room visits within 4–12 days after their 12 months MMR vaccination** and 1 in every 730 toddlers 10-12 days after their 18 months MMR vaccination. Due to the design of the study we don't know exactly how many died, only that it was less than five.

As to adverse events associated with measles vaccines, here is an other interesting 2012 paper reporting on **doctor awareness** of the increased risk of febrile seizures with the MMRV vaccine. The paper reports a rate of febrile seizures of **9 per 10,000 vaccinations with MMRV**, as opposed to **4 per 10,000 for separate MMR and varicella shots (a 125% increase).** Pediatricians and family doctors were sent a survey to gauge their awareness of the increased risk of febrile seizures from the MMRV. **74% of family doctors and 29% of pediatricians were unaware of the increased risk of febrile seizures**. After reading an informational statement only 7% of family doctors and 20% of pediatricians would recommend the MMRV for a healthy 12- to 15-month-old child. The conclusion in the abstract states: "*After receiving data regarding febrile seizure risk after MMRV, few physicians report they would recommend MMRV to a healthy 12-15-month-old child*."

Serious AEFI Reports on the CV Database

For this measles report, we searched the CV database for measles vaccine adverse event reports, then downloaded these as PDFs and annotated them so they could be uploaded to our website along with this report. AEFI reports do not prove causality. They do however point the way to research that needs to be done on vaccine injury.

The first search shows the 9 deaths that have been reported where measles vaccine is the suspect vaccine. Two of these reports occurred in the late 1960s and are likely related to the use of the killed vaccine that was removed from the market in 1967 due to its lack of efficacy and safety. Upon exposure to wild measles virus, children who had been vaccinated with the killed vaccine were infected with the benignly named "atypical measles", which was actually a very virulent form with high injury rates.

The second search is for **Serious AEFIs** only, for the age group **0–7 years** to capture the first and second dose of MMR vaccine. It includes 237 Serious reports over the years. Aside from the 9 deaths, **neurological adverse events** include: 41 seizures/convulsions, 15 cases of encephalitis, 5 autism, 4 paralysis, 3 brain damage, 3 developmental delay, 3 aphasia (inability to formulate or comprehend language), 2 gait disturbance. Almost every report indicated measles symptoms (either vaccine-strain or wild-type due to vaccine failure).

Below is a chart of the CV reports by year. Note the 21-year gap in reports.

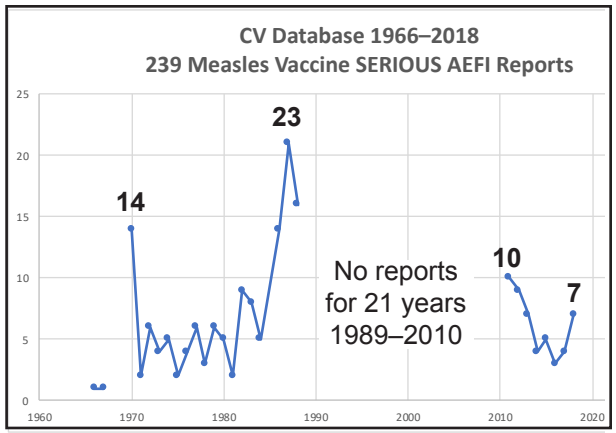
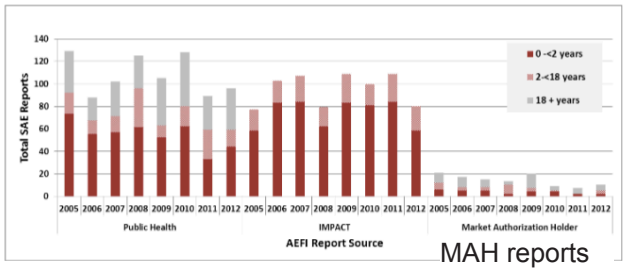


Figure 1B: Serious AEFI[1] (SAE)[2] reporting sources for children and adults by year vaccine administered, 2005–2012



CAEFISS was started up in 1987, so perhaps the reports are there. We know CAEFISS recorded MAH records from 2005 to 2012 as shown in Figure 1B below from PHAC's 2012 Summary Report. The report also says MAHs were to stop reporting to CAEFISS and report only to CV beginning in 2012.

However, this does not explain why MAHs did not report as required by law to the CV database during those years. Or if they did, why the records were not retained on the CV database. Such is our dysfunctional safety surveillance system.

MAH reports