# Measles and measles vaccines: fourteen things to consider. ~by Roman Bystrianyk (co-author Dissolving Illusions: Disease, Vaccines, and the Forgotten History) 

"For over 100 years, there has been a strong association with vitamin A deficiency and adverse measles outcomes, especially in young children. Has the time come for the medical community to recognize that any child presenting with measles complications should be given vitamin A and evaluated for overall nutritional status? If not, what has history taught us?"

- Adrianne Bendich, 1992

Measles - it's a highly infectious disease we don't think much about today. After all, a vaccine was developed 50 years ago that "defeated" the problem. [1] But wait... despite a measles vaccine being around for half a century, measles is still considered a major threat by health authorities.

At its fifty year anniversary there were universal positive accolades in the media. Anyone who questions the value of measles vaccines or any vaccine is quickly pilloried because the science of the measles vaccine is supposedly beyond reproach. Proponents say that only conspiratorialists and lunatics would question it.

But, there are facts regarding the history of measles that almost never reach the light of day. Here are 14 things you may not have been told by public health officials, your doctor, or the media.

## 1. Measles death rate had declined by almost $100 \%$ before the use of a measles vaccine

During the 1800s, measles was a notable cause of death. Epidemics occurred every few years causing a large influx of children into local hospital wards. In Glasgow, England From 1807-1812 measles accounted for $11 \%$ of all deaths. In the years from 1867-1872, 49\% of children in a Paris orphanage who developed measles died. [2] Starting in the mid to late-1800s deaths from all infectious diseases, including measles, began to decline. By the 1930s in England and the United States the chance of dying from measles had dropped to 1-2 percent.

A killed measles virus (KMV) vaccine came into use in the United States in 1963. What you may not have heard, is that by 1963, the death rate from measles in the United States had already dropped by approximately 98\%. [3]


Some New England states had no deaths at all from measles. During this year, the whole of New England (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut) had only 5 deaths attributed to measles. Deaths from asthma were 56 times greater, accidents 935 times greater, motor vehicle accidents 323 times greater, other accidents 612 times greater, and heart disease 9,560 times greater. [4]

In England the measles vaccine was introduced in 1968. By this point measles deaths were extremely rare. The actual death rate from measles in England had fallen by an almost full 100\%. [5]


## 2. The 1963 measles vaccine caused a severe disease called atypical measles

Historically, measles would produce a high fever, cough, and measles rash.
...almost suddenly, coryza [head cold], with red and watery eyes, and photophobia present themselves, closely followed by troublesome cough and corresponding feverishness reaching $103^{\circ}$ and $104^{\circ} \mathrm{F}$. (39.4 ${ }^{\circ}$ and $40^{\circ} \mathrm{C}$.) [6]

The early vaccine that was experimented with was a weakened, live measles vaccine. This vaccine resulted in a much higher fever in about half the children that received it. Meaning, they had a 106 degree fever as opposed to the 103 degree fever they might have had with natural measles.

However the vaccine produced a modified measles rash in 48 per cent of the children who received it and fever as high as 106 degrees in 83 per cent of them. [7]

To temper this problem, measles-specific antibody was given in the form of immune serum globulin alongside the live vaccines. This practice blunted the obvious reactions (fever and rash) to the live virus in the vaccine, but had serious potential consequences.

The data show a highly significant correlation between lack of measles exanthema [rash] and autoimmune diseases, seborrhoeic skin diseases, degenerative diseases of the bones and certain tumors . . . We think that the rash is caused by a cell mitigated immune reaction, which destroys the cells infected with the measles virus. If this is correct, the missing exanthema may indicate that intracellular virus components have escaped neutralization during the acute infection. This may later lead to the aforementioned diseases . . . The presence of specific antibodies at the time of infection interferes with the normal immune response against the measles virus, in particular with the development of the specific cell mitigated immunity (and/or cytotoxic reactions). The intracellular measles virus can then survive the acute infection and cause diseases manifesting in the adult age. [8]

In other words, suppressing the measles rash and fever, which may have seemed like a good idea at the time, interfered with the normal immune response. Interfering with the body's immune response, in attempt to compensate for a worse vaccine reaction, may have resulted in future problems in the adults that received this treatment. The use of immune serum globulin was recommended to be discontinued in 1968, but continued long after that. [9] This practice continues to this day.
...four contacts with no history of MMR vaccine or with contraindications to MMR vaccination, received immunoglobulin. [10]

A study from 1967 revealed that this killed measles virus vaccine could cause pneumonia and abdominal pain as well as encephalopathy (inflammation of the brain). These severe effects were "unanticipated."

Pneumonia is a consistent and prominent finding. Fever is severe and persistent and the degree of headache, when present, suggests a central nervous system involvement. Indeed one patient in our
series who was examined by EEG, evidence of disturbed electrical activity of the brain was found, suggestive of encephalopathy . . . These untoward results of inactivated measles virus immunization was unanticipated. [11]

Atypical measles was severe and occurred after encountering natural measles or being vaccinated with a live measles vaccine, because of being originally vaccinated with the KMV vaccine.

Atypical measles was characterized by a higher and more prolonged fever, unusual skin lesions and severe pneumonitis compared to measles in previously unvaccinated persons. The rash was often accompanied by evidence of hemorrhage or vesiculation. The pneumonitis included distinct nodular parenchymal lesions and hilar adenopathy. Abdominal pain, hepatic dysfunction, headache, eosinophilia, pleural effusions and edema were also described. [12]

Nearly 2 million doses of KMV vaccine were distributed in 1963-1967. The killed vaccine was usually given in a series of 2 to 4 doses at monthly intervals. Atypical measles was reported even 16 years after receiving KMV vaccinations. Atypical measles due to use of the KMV vaccine could prove deadly.

> A 13-year-old girl died on February 18, 1978, after being hospitalized at University Hospital, Ann Arbor, Michigan, with a diagnosis of measles encephalitis and pneumonia. The patient had been vaccinated in 1966 or 1967 with 3 injections of killed measles vaccine. One week before admission, and 10 days after a known measles exposure, she developed fever, headache, chills, cough, rhinorrhea, and severe vomiting. A fine rash appeared on her arms and spread to her trunk and face. She was seen by her physician, who diagnosed atypical measles. A week later, on January 23 , her fever increased, and she had her first seizure. . Upon arrival, she was treated with intravenous penicillin and hydrocortisone. Despite anticonvulsant therapy, she continued to have focal and then generalized seizures... Over the next several days, the rash began to fade, but the patient remained comatose. She died on the 21st hospital day. [13]

## 3. Measles was supposed to be eradicated in 1967

With the invention of the killed vaccine and then a live vaccine, a campaign was started in the autumn of 1966 to eliminate measles from the United States. With vaccination of all the susceptible 8 to 10 million children, measles was projected to be eliminated from the United States by 1967.

Highly effective, safe vaccines are available for eliminating measles in the United States. Collaborative efforts of professional and voluntary medical and public health organizations are directed toward eradicating the disease in 1967. [14]

Effective use of these vaccines during the coming winter and spring should insure the eradication of measles from the United States in 1967. [15]

15 years later measles rates had declined, but the expected quick eradication did not occur. The response at that point, was to vaccinate all children and not just the "susceptible" children. The new plan would be to eliminate measles from the United States by 1982.

On October 4, 1978, the Secretary of the Department of Health, Education, and Welfare, Joseph A. Califano, Jr., announced that the United States would seek to eliminate indigenous measles from the nation by October 1, 1982. This goal is a possibility because of the decline in incidence of measles in the United States and the major progress that the Nationwide Childhood Immunization Initiative has made in attaining immunization levels of at least $90 \%$ in those under 15 years of age by October 1, 1979. [16]

Yet, it wasn't until 1980 that a stable live vaccine became available. Those vaccinated before 1980 might not be as immune as had originally been believed because it was later determined these older vaccines were not necessarily effective.

> Dr. Ralph D. Feigin, physician in chief of Texas Children's Hospital in Houston and an expert in infectious diseases, said people born before 1956 are assumed to be immune to measles, because nearly every child was exposed to the disease. The vaccine was first developed in 1963, but it was made from a killed virus and was not widely effective. In 1967 a live vaccine was introduced, but it was an unstable solution and lost its effectiveness if it was not properly refrigerated. It was not until 1980 that a stable live vaccine became available. As a result, people vaccinated before 1980 may not be immune. That is one reason measles is breaking out on college campuses. [17]

In the year 2000, cases had declined, and measles was finally declared eliminated from the United States - 33 years after the original elimination target date. However, in 2012 the CDC pulled back from that declaration, stating that measles reappeared and was spreading. Of the total number of cases, 200 were attributed to foreign travel, but the source for 22 cases was never determined. [18]

## 4. A single shot was said to provide lifelong immunity

Edward Jenner is generally recognized as the inventor of the first vaccine in 1798, although the practice of using diseased human and/or human pus in an attempt to protect against diseases is known to have been used even in ancient times. Jenner's vaccine was supposed to guard against smallpox. He erroneously claimed that it would protect someone for life. This statement would later prove to be completely false and the claims for the vaccine were modified to state that the vaccine provided temporary protection that would make the disease "milder."

Similar to this statement, the inventors of the early measles vaccines made claims that the vaccine would provide lifelong immunity to measles with a single shot.

Measles virus vaccine is recommended for all persons who have neither had measles nor been vaccinated previously. It is believed that one dose of live, attenuated vaccine will give life-long protection. [19]

The United State Public Health Service licensed a new, refined, live-measles vaccine. Although several live vaccines have been licensed since 1963-all of them one-shot treatments that give life immunity without serious side-effects-the new one is considered by epidemiologists as "the best so far in minimizing the side-effects." [20]

Before the era of vaccination, natural measles would mostly occur in younger children. But with the advent of vaccination there was an upward shift in age of infection to adolescents.

The number of measles cases reported in 1976 and 1977 increased to the highest levels since 1971. Much of the increase resulted from localized measles outbreaks, many of which occurred in school populations, particularly among the 10- to 19-year-olds, in communities believed to have high immunity levels. . . With the recent shift in age distribution of reported measles cases to older age groups, effective epidemic control may require vaccination of susceptible high school and college-age persons as well as preschool and younger school-age children... [21]

Because of this shift, the vaccine needed to be administered to this older population that historically would have gotten measles much earlier and had lifelong immunity. A significant percentage of this group developed fevers just as high as or higher than if they had had natural measles.

Because of the upward shift in age distribution of reported cases, the immune status of all adolescents should be evaluated. Complete measles control will require protection of all susceptibles; therefore, increased emphasis must be placed on vaccinating susceptible adolescents and young adults. . . about $5 \%-15 \%$ of vaccinees may develop fever $>103 \mathrm{~F}$ (>39.4 C) beginning about the sixth day after vaccination and lasting up to 5 days...[22]

The idea of a single shot has been replaced in the current schedule recommended by the CDC to vaccinate at 12-15 months and 4-6 years [23], and now even adults are often told to get another vaccine. This second shot recommendation was issued after the repeated failure to eliminate measles with the single shot.

> At least one state, New York, has already taken steps to require two doses. All students entering kindergarten in September 1990 will be required to show evidence of having had two measles shots, said Frances Tarlton, a spokeswoman for the New York State Health Department. The pediatric academy's new policy recommends that the first dose be given along with immunizations against mumps and rubella at 15 months. The second would be given with mumps and rubella immunizations at entrance to middle school or junior high school. [24]

The idea of lifelong immunity came from the observation that those exposed to natural measles were immune for a very long period of time or for life.

One of the remarkable observations about measles is that immunity induced by natural infection appears to remain strong for life: thus, Panum observed that individuals exposed to measles in 1781 in the Faroe Islands were still immune when the virus was next introduced, 65 years later in 1846. [25]

However, unlike natural measles infection, the measles vaccine does not appear to provide such long lasting protection. Protection afforded by vaccination appears to wane in number of years. Length of protection is estimated in this study to be approximately 25 years.

Because measles-specific antibody titer after vaccination is lower than after natural infection, there is concern that vaccinated persons may gradually lose protection from measles. Secondary vaccine failure (loss of immunity over time), in contrast to primary vaccine failure (no protection immediately after vaccination), is a concern because of the potential insidious challenge to measles elimination.
For instance, if vaccine-induced immunity wane to nonprotective levels in a high proportion of
vaccinated adults, the level of population protection might decline to allow recurrence of endemic disease. By means of statistical modeling, Mossong et al. predicted waning of vaccine-induced immunity 25 years after immunization. [26]

Like the smallpox vaccine and the measles vaccine, most vaccines were originally claimed to provide lifelong protection. However, actual experience showed that this was never the case as it often is with natural infection.

## 5. Large epidemics still occur in highly vaccinated populations

In the pre-vaccine era, measles freely circulated providing for natural boosting in the population. After natural measles infection during childhood, reoccurrence of measles was rare. The solid, lifelong protection afforded by natural infection has been replaced with a vaccine-induced immunity that wanes with time. Waning immunity among the vaccinated, combined with lower natural disease boosting will create substantial numbers of measles-susceptible people in highly vaccinated populations
> ...waning of vaccine-induced immunity can have a significant impact, primarily because the available data makes higher values plausible for this rate of waning. The rate is still quite small, but by acting on so many individuals in a highly vaccinated community it can render a significant number susceptible to infection. [27]

This combination of effects can result in large-scale measles epidemics, despite high vaccination rates.

> When immunity wanes, vaccination has a far more limited impact on the average number of cases. While this observation has clear public-health implications, the dynamic consequences of the interaction between vaccination, waning immunity and boosting are far more striking. For high levels of vaccination (greater than 80\%) and moderate levels of waning immunity (greater than 30 years), largescale epidemic cycles can be induced. [28]

Dr. James Cherry, commented that, in the post-vaccine era, measles had become a "time bomb." [29] Is this why the CDC and health officials go into a state of panic when measles cases erupt in well vaccinated populations? Do officials know that at some point waning immunity will start an epidemic even in a very highly vaccinated population? Think of the impact of this dynamic as the truly immune seniors die out of the population, and are replaced by vaccine "immune" people.

## 6. Babies have become more susceptible to measles

Mothers transmit all sorts of protective immune globulins to their babies naturally via the placenta and these last for several months. She also passes general and specific immunity through her milk. A mother who has had natural measles yields protection to the baby against measles for about 12 to 15 months while breastfeeding. Mothers who were vaccinated transmit a shorter duration of protection to their babies. In the era of vaccination, babies are now susceptible to measles at a much earlier age.

[^0]Because of this decrease in maternal antibodies there are calls to vaccinate infants at younger ages.

Moreover, as children of vaccinated mothers lose their maternal antibodies earlier than children of naturally infected mothers, we may need to give the first MMR (Measles Mumps Rubella) dose at a younger age if measles, mumps or rubella start occurring in young infants. [31]

This is already a well-established practice in very young infants in overcrowded, poor countries.

## 7. Immunity is not always immunity: Shifting sands.

Because of the KMV vaccine, lack of understanding of maternal antibodies, and use of serum globulin, a large numbe of people were told that they needed to be revaccinated in 1977.

The following persons cannot be considered adequately protected and should be revaccinated: (1) children previously vaccinated with live measles vaccine before they were 12 months of age (2) children who received live, further attenuated vaccine (SchwarzR or MoratenR strains), along with immune serum globulin (ISG), regardless of age at time of vaccination (3) persons previously vaccinated with killed measles vaccine (4) persons previously vaccinated with live measles vaccine within 3 months after receiving killed measles vaccine... [32]

By 1989, because of numerous issues - including the determination that the older vaccines were not widely effective - everyone under the age of 32 (anyone born after 1957) was urged to be revaccinated.

> All children in the United States should be given a second vaccination against measles, as should adults under the age of 32, the American Academy of Pediatrics says. A similar recommendation is expected from the Centers for Disease Control later this year, said Dr. Walter O. Orenstein, who heads the division of immunization at the Federal agency in Atlanta. The new recommendations call for a gradual campaign, not an overnight effort, to provide a second measles vaccination to those under 32. [33]

## 8. Immunity without antibodies

Scientists were surprised when they learned that individuals with a deficit in antibody production, called agammaglobulinemia, recovered from measles just as well as normal antibody producers. This "disconcerting" discovery was made in the 1960s when measles vaccinations were just getting under way.

One of the most disconcerting discoveries in clinical medicine was the finding that children with congenital agamma-globulinaemia, who could make no antibody and had only insignificant traces of immunoglobulin in circulation, contracted measles in normal fashion, showed the usual sequence of symptoms and signs, and were subsequently immune. No measles antibody was detectable in their serum [the water part of blood minus clotting factors and cells]. [34]

Therefore the antibody part of immunity is not at all necessary for the natural recovery from measles, nor the immunity upon re-exposure.

> ...children with antibody deficiency syndromes have quite unremarkable attacks of measles with the characteristic rash and normal recovery. Furthermore, they are not unduly prone to reinfection. It therefore seems that serum antibody, at any rate in any quantity, is not required for the production of the measles rash; nor for the normal recovery from the disease; nor to prevent reinfection. [35]

Nonetheless, vaccine scientists and public health officials have measured "immunity" solely focusing on antibodies. Antibody production does occur in natural infection but it is the last thing that happens and not a necessary part of recovery or long-term immunity. It is known that the immune system responds with more than just antibodies, yet because markers of cell-mediated immunity are elusive, antibodies have become the measure of whether or not a person is immune.

When a person gets an infectious disease for the first time, the body's immune system uses its innate powers, which mostly involve cellular immunity. In the process, it prepares for the future. The next time that same infectious agent comes around; the body will use its memory of the first experience so that it can react faster. This is done with or without antibodies.

## 9. Vitamins A and C are key to normal measles recovery.

With a singular focus on vaccination and antibody response all other approaches dealing with measles were for the most part ignored. However, since the early 1900s it was known that certain vitamins had a significant impact on measles outcomes.

Vitamin A stops the measles virus from rapidly multiplying inside cells by up-regulating the innate immune system in uninfected cells which helps to prevent the virus from infecting new cells. It is well known today that a low vitamin A level correlates with increased morbidity and mortality. Vitamin A is a well-proven intervention for reduction of mortality, concomitant infections, and hospital stay.

When the body fights any infection, but especially measles, vitamin A stores become depleted by various mechanisms. Measles infections and high-titer measles vaccines both impair cell-mediated immunity, in part because of vitamin A depletion.

Dr. Ellison reported in 1932 that well-nourished children rarely died or had serious infectious complications from measles, even without sulfonamides and other primitive antibiotics. As early as 1932, scientists found that mortality dropped by 58 percent when children hospitalized with measles were given cod liver oil, which contains vitamins A and $D$ and omega-3 fatty acids. Later studies in the 1990s showed amazing results of vitamin A reducing deaths by 6C to 90 percent.

> Combined analyses showed that massive doses of vitamin A given to patients hospitalized with measles were associated with an approximately $60 \%$ reduction in the risk of death overall, and with an approximate $90 \%$ reduction among infants . . . Administration of vitamin A to children who developed pneumonia before or during hospital stay reduced mortality by about 70\% compared with control children. [36]

By 2010 it was well accepted that supplementing with vitamin A during acute measles illness led to significant drops in both adverse outcomes and death.

Vitamin A administration also reduces opportunistic infections such as pneumonia and diarrhea associated with measles virus-induced immune suppression. Vitamin A supplementation has been
shown to reduce risk of complications due to pneumonia after an acute measles episode. A study in South Africa showed that the mortality could be reduced by $80 \%$ in acute measles with complications, following high-dose vitamin A supplementation. [37]

What happened to this wisdom in the era of vaccine development? How much faster would the decline in death curve have dropped if this basic fact had been widely accepted when it was first noted in the early 1900s?

Availability of vitamin C-rich fruits and vegetables was another factor in disease morbidity and mortality reduction.
There were improving trends in overall nutrition as seen by a parallel in the decline in deaths from measles and the vitamin C deficiency diseases.


Experiments done in the 1940s showed that vitamin C was effective against measles, especially when used in higher doses.

> During an epidemic [of measles] vitamin C was used prophylactically and all those who received as much as 1000 mg . every six hours, by vein or muscle, were protected from the virus. Given by mouth, 1000 mg. in fruit juice every two hours was not protective unless it was given around the clock. It was further found that 1000 mg . by mouth, four to six times each day, would modify the attack; with the appearance of Koplik's spots and fever, if the administration was increased to 12 doses each 24 hours, all signs and symptoms would disappear in 48 hours. [38]

In 1917 Dr. Drummond used cinnamon in the treatment of head colds and recommended its use for measles. At that time, measles was still considered a serious condition, with approximately 10,000 people, mainly children under five, dying each year in England and Wales.
in The British Medical Journal his experience with cinnamon in the preventative treatment of German measles. He urges that it be tried extensively in the endeavor to prevent epidemics of the ordinary variety of measles . . . Cinnamon is a drug whose therapeutic virtues are not sufficiently recognized. The essence of cinnamon in twenty-five-drop doses is one of the most effective remedies in cases of acute coryza, [inflammation of nasal mucous membranes]... some years ago an article was published in The Journal strongly advocating cinnamon as a preventative of measles. [39]

In 1919 Dr. Drummond commented that cinnamon oil was an effective prophylactic against measles or that it made measles milder.

It has been my practice, when I meet with a case of measles in a family, to prescribe a course of cinnamon for all unprotected members of the family. In the majority of cases the person so treated [with cinnamon] escaped the disease [measles] altogether, or else had it in very mild form. [40]

It is difficult to know exactly why cinnamon was so helpful, but today we do know that it possesses many beneficial properties; it is an antioxidant, and contains vitamins $A$ and $C$ and minerals like zinc, potassium, magnesium, and manganese.

## 10. High titer measles vaccines increased death rates in poor countries

Due to the lack of understanding that the measles vaccine uses up vitamin A stores, and a complete focus on antibody response, vaccination sometimes resulted in a higher death rate.

Previous studies have shown excess mortality and immune abnormalities among girls immunized with high titer measles vaccine 2 to 4 years after immunization... our results showed that serum vitamin $A$ concentrations were depressed after measles vaccination, irrespective of whether it was the monvalent or combined measles vaccine. [41]

The study authors concluded that instead of looking for antibody response they should have been looking for long term outcomes to measure real results of their experiments.

High titre vaccines, like natural measles, cause long term disruption of immune function, including an imbalance in the type of helper $T$ cell response ... The message is clear. Strategies involving vaccination in infants with maternal antibody, or new measles vaccines, must be tested in randomized trials in which the end point is mortality and not a surrogate effect such as measles antibody titre. [42]

Measles vaccine has been associated with other unexpected adverse findings in long-term studies. In developing countries, the use of high-titre vaccine at 4-6 months of age was associated with an unexpectedly high mortality in girls by the age of 2 years from infectious childhood illness. [43]

## 11. You can get measles and shed measles virus from the MMR vaccine

Conventional thinking states that you couldn't possibly get measles from the measles vaccine or transmit it to others.

MMR, varicella, and rotavirus vaccines, although live viral vaccines, are recommended for immunocompetent household contacts because transmission of the virus is rare. The lack of viral shedding with MMR eliminates concern regarding transmission. [44]

Although thought impossible, this case illustrates a threat of vaccine-associated measles spreading from a two-yearold patient in British Columbia, Canada, in October 2013. This case of vaccine-induced (PCR-proven) measles occurred 37 days after the MMR vaccine.

> In this report we describe a case of measles-mumps-rubella (MMR) vaccine-associated measles illness. . Between 29 August and 2 September 2013, three unlinked persons from across the Fraser Valley, British Columbia, Canada, presented with rash illness consistent with clinical measles. . .this report documents the first case of MMR vaccine associated measles, 37 days post-immunisation. . . Although this is the first such reported case, it likely represents the existence of additional, but unidentified, exceptions to the typical timeframe for measles vaccine virus shedding and illness. [45]

Health officials were so concerned about viral shedding from the vaccinated child that they gave either a vaccine or measles immune globulin to all susceptible contacts. Unfortunately, this intervention precluded accurate tracking of vaccine shedding disease to contacts.

## 12. Is it really "measles" in the first place?

"Flu" is basically defined as a $100^{\circ} \mathrm{F}$ or higher fever or feeling feverish (not everyone with the flu has a fever), a cough and/or sore throat, a runny or stuffy nose, headaches and/or body aches, chills, and fatigue. So if you have that you think you have the flu. Right? Actually no. What is often poorly understood is that a person actually has a syndrome (influenza-like illness, or ILI) that can be caused by various agents. Only a proportion of this syndrome is caused by influenza $A$ and $B$ viruses, but differential diagnosis on clinical grounds alone is not possible. So in other words, just because you or your doctor think you have the "flu" doesn't mean you have the influenza virus.

In a 2009 editorial by Thomas Jefferson of the Cochrane Vaccines Field, explained just what the incidence of ILI is and what percentage are actually caused by the influenza virus. Using perspective studies the Cochrane group determined that during the winter season about $7 \%$ of people come down with ILI - $93 \%$ don't. Of that $7 \%$ only a small fraction are from influenza - 11\% influenza, 6\% RSV [Respiratory syncytial virus], 3\% Rhinovirus, 2\% PIV [Parainfluenza virus], and a whopping $77 \%$ from unknown causes. Based on this the conclusion was:

> ...evidence presented here points to influenza being a relatively rare cause of ILI and a relatively rare disease. It follows that vaccines may not be appropriate preventive interventions for either influenza or ILI. [46]

So what about measles? A 2002 study examined 195 children with rash and high fever. Comprehensive laboratory investigation showed that none had measles or rubella. Children were determined to have parvovius B19, group A streptococcus (GAS), human herpes virus type 6, enterovirus, adenovirus, and group C streptococcus.

Many children presenting with rash-fever illness have evidence of either GAS infection or parvovirus B19 infection. GAS infection is usually associated with a sore throat but can cause scarlet fever, particularly in older children. . . This study reaffirms the guidance that all suspected measles and rubella should be investigated and that alternative diagnoses should be considered. Other infections

This study was similar to an earlier study that found a number of measles cases were not in fact measles.

Rubella and parvovirus B19 seem to be responsible for a minority of incorrectly diagnosed measles cases in the United Kingdom, and other infectious causes of measles-like illness need to be sought. [48]

Measles incidence always relied on a doctor's clinical diagnosis with no laboratory confirmation. Now that laboratory tests are available, most "measles" cases are now found not to be measles. When you think have the "flu" you really have ILI (influenza-like illness) and when you think you have measles you really have MLI (measles-like illness.)

MLI (Measles-Like IIIness) is common, particularly in younger age groups, and can be caused by a variety of pathogens that are difficult to differentiate clinically without laboratory guidance. In order of frequency, other common viral causes of rash-like illness - parvovirus B19, rubella, cytomegalovirus, and Epstein-Barr virus - were identified in our study. [49]

So just how accurate were the statistics of measles incidence in the 1950s and after? As an editor questioned in 1997, how could the effectiveness of the measles vaccine be known if diagnosing measles is so difficult?

> Measles is wrongly diagnosed in 97 per cent of cases, according to new data from the Public Health Laboratory Service... We're not saying for one minute that GPs [General Practioners] are poor at making diagnosis - these findings show how inherently difficult it is to make a diagnosis based on clinical symptoms alone. Any doctor would find it difficult to differentiate between viruses. . . Editor - It would be interesting to know how long the misdiagnosis of measles has been occurring? - Perhaps the last thirty years or more? - In which case how can they be sure of the effectiveness of the measles vaccine? [50]

Once vaccination became widespread, were cases of presumptive measles now no longer being diagnosed as measles? Was this refinement of diagnose a large part of the large decline in measles incidence recorded with widely acknowledged earlier poor quality vaccines?

## 13. Declining disease incidence?

After the introduction of the 1963 measles vaccine there was an apparent decline in disease incidence. This can be seen in many CDC and other graphs. These graphs form the foundation for much of the praise that the measles vaccines have received.

Keep in mind that once you had a vaccine, even if you had just as high or even higher fever than expected from natural measles, you were not counted as having "measles." Statistics were kept for measles incidence but not how many had adverse reactions. For the more severe disease - atypical measles - incidence was not tracked, so those were not part of the statistics. Even today, the MMR (Measles-Mumps-Rubella) vaccine has an acknowledged list of reactions. [51] Yet, if you have any reaction it isn't incorporated into the measles incidence - even if the reaction was worse than natural measles. MMR vaccine reactions:

## Mild Problems

Fever (up to 1 person out of 6)
Mild rash (about 1 person out of 20)
Swelling of glands in the cheeks or neck (about 1 person out of 75 )

## Moderate Problems

Seizure (jerking or staring) caused by fever (about 1 out of 3,000 doses)
Temporary pain and stiffness in the joints, mostly in teenage or adult women (up to 1 out of 4)
Temporary low platelet count, which can cause a bleeding disorder (about 1 out of 30,000 doses)

## Severe Problems (Very Rare)

Serious allergic reaction (less than 1 out of a million doses)
Several other severe problems have been reported after a child gets MMR vaccine, including:
Deafness
Long-term seizures, coma, or lowered consciousness
Permanent brain damage
Before the introduction of the 1963 vaccine, the incidence of measles was already on a slow decline.


Was measles slowly becoming less prevalent anyway? We know that measles can be sub-clinical 30 percent of the time, [52] and the death rate had already plummeted. Like smallpox, was the disease slowly burning out? Was the rise in breastfeeding and improved nutrition contributing to fewer diagnosed cases? How many cases that were recorded as measles based on a clinical diagnosis really other viruses? Can we at all trust measles incidence statistics in the first place?

If the trend continued as seen in the measles incidence graph, then measles incidence would have hit zero in the year 2000 without any vaccine program. Coincidentally, the year 2000 is the same year the CDC declared measles eliminated from the United States.

## 14. Measles is not serious in well-nourished people.

Just how bad is measles? As we have seen, historically measles was a seriously problematic disease which was often deadly. Even today in poorly nourished children the mortality due to measles is 200-400 times greater than in the well-nourished in developed counties. [53]

Measles remains one of the leading causes of childhood mortality in countries where malnutrition, poor sanitation, and inadequate medical care are prevalent . . . Measles is often a fatal disease among socioeconomically deprived children in tropical countries. [54]

It has been recognized for a long time in the medical and historic literature that in well-nourished children measles is not a major cause of concern and usually a mild disease. Before the advent of a measles vaccine the fact that measles was no longer a major threat was well recognized. From the British Medical Journal in 1959:

> To give some idea of the main features of the disease as it appears to-day and of how it is best treated, we invited some general practitioners to write short reports on the cases they have seen in their practices recently. . . These writers agree that measles is nowadays normally a mild infection, and they rarely have occasion to give prophylactic gamma globulin. [55]

> In the majority of children the whole episode has been well and truly over in a week, from the prodromal phase to the disappearance of the rash, and many mothers have remarked "how much good the attack has done their children," as they seem so much better after the measles. . . In this practice measles is considered as a relatively mild and inevitable childhood ailment that is best encountered any time from 3 to 7 years of age. Over the past 10 years there have been few serious complications at any age, and all children have made complete recoveries. As a result of this reasoning no special attempts have been made at prevention even in young infants in whom the disease has not been found to be especially serious. [56]

While no infectious disease should be treated trivially, if managed properly with good nutrition, vitamin A in pharmacologic doses, and adequate rest, there should be little fear of a disease such as measles with the significant resultant advantage of acquiring lifelong immunity. Nutrition and sanitation have always taken a backseat to medical interventions such as vaccination despite the fact that these were the overwhelmingly reasons that the infectious diseases of the past were largely tamed. Yet, when there is a reported case of measles (which we have learned is really MLI ) the health officials and media become apoplectic and fill the public with irrational fear instead of using any logical and reasonable attempts at education. For example, public health officials could recommend the use of vitamir A, vitamin C, fluids and bed rest to ameliorate any problems with measles.

The efficiency of the cellular immune system is tied to the intake of dietary nutrients, including vitamin A , vitamin C , zinc, selenium, and protein rich in vitamin B. Poor nutrition leads to impaired cellular immune responses, which results in worse outcomes after measles infection or exposure. [57]

In 1988 there was an outbreak of measles in an Amish population that had not seen measles in 18 years. The Amish general eschew vaccination based on religious grounds and during the outbreak vaccination clinics were held but only 14 chose to be vaccinated. Of the 130 reported measles cases most has no issues with only 5 patients contacting a physician and 2 who were hospitalized. No details were described for the hospitalized cases, including their overall health and nutritional status. Imagine if the community had been adequately advised on vitamin $A$ and other positive strategies instead of relying singularly on vaccination?

## Conclusion

Digging beneath the thin fairytale of the measles vaccine, it is possible to unearth a large number of facts that question the entire premise of continuously vaccinating the entire human population from cradle to grave.

We were told that a vaccine was invented to tame measles and we all lived happily ever after. As we have seen, this is not the case. Unfortunately, the term "vaccine" has achieved a magical cult like status in our society. Simply attach the term vaccine to anything and it instantly becomes "safe and effective" for the vast majority. It doesn't matter what the ingredients are, who manufactured it, how it was made, or any of its less than stellar history. Vaccines are always the magic wand for any disease. No questions asked.

We now know that by the time the measles vaccine was put into place, the death rate had fallen to virtually zero along with a declining incidence of the disease. We were promised that a single shot would provide lifelong protection and that if only the "right" number of children were vaccinated the disease would have been eradicated by 1967. Instead, we now have to have all children subjected to at least 2 vaccines with less than lifelong protection. Now, whereas natural measles exposure generally left the person with reliable lifelong immunity, measles vaccines leave the individual with waning immunity. Because the truly immune seniors are dying off, the vaccine immune are now recommended to get adult vaccines. [59] This dynamic of waning immunity means we will probably see measles epidemics even in highly vaccinated populations.

Because of an early and simplistic understanding of the immune system there has always been a myopic obsession with a single aspect of the immune system - antibodies. This obsession continued despite the early understanding that recovery from measles required only a well-nourished cellular immune system with absolutely no antibodies at all. Vital nutrients such as vitamin A and C and any other non-vaccine approach have been virtually ignored. It was these ingredients that were key to a healthy immune system and complete recovery from measles or even other infections. And importantly when someone thought they had the measles they really had MLI (measles-like illness) that might have been the result of a different cause and not the measles virus.

Sadly, the victims of medical experiments are never counted. Those that suffered worse than if they had natural measles, those that developed encephalitis, those that suffered and even died from atypical measles, those that were given high-titer measles that later died of other infections, never make it into pages of a hero's fairytale, lest it become a graphic novel. As Dr. Charles Cyril Okell said in the in 1938:
> ...without propaganda there can, of course, be no large-scale immunisation, but how perilous it is to mix up propaganda with scientific fact. If we baldly [in plain or basic language] told the whole truth it is doubtful whether the public would submit to immunization . . . Accidents and mistakes must inevitably happen and when they take place what might have been a highly instructive lesson is usually suppressed or distorted out of recognition. [60]

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[^0]:    Waning immunity may become an increasing problem as vaccine coverage increases: because more mothers will have been vaccinated and since they have not been exposed or had natural measles, they will transmit lower levels of maternal antibody. Thus their babies become susceptible to measles by 3 to 5 months of age. [30]

