

MEASLES: THE TIP OF THE ICEBERG

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As of May 9th, there have already been 132 cases of measles across 17 states, including Delaware, in the first few months of 2024 alone. In comparison, in all of 2023, there were only 58 cases. The numbers are jumping up.

Why is this important to be aware of? Measles is a very serious viral infection. More than half have required hospitalization for either isolation or management of complications of the illness, and of those who were under 5, over two-thirds of them had to be hospitalized.

Typical symptoms of measles are fever, cough, runny nose, red watery eyes, followed by a red rash that begins on the face & head, and then spreads downward. One in 10 people with measles will develop ear infections that can lead to permanent deafness. One in 20 will develop pneumonia. One in 100 will end up with encephalitis, aka brain inflammation. And one to three out of every 1000 people with measles will die.

Prior to the availability of the measles vaccine in 1963, the World Health Organization reported that major measles epidemics occurred every 2 to 3 years, resulting in 2.6 million deaths globally in *each* epidemic year. In the United States prior to 1963, measles caused 48,000 hospitalizations and 400-500 deaths annually.

Measles is extremely contagious, more than almost any other viral illness. Nine out of 10 unimmunized people who are exposed will be infected. The measles virus lingers in the air and on surfaces for 2 hours. And patients are contagious for 4 days before and 4 days after the characteristic rash is present. Each measles patient infects an average of 12-18 people who lack immunity. In comparison, each Covid patient infects about two other people.

Most cases of measles in the United States are brought here by unvaccinated Americans who have visited countries where measles is common. The UK and US had previously “eliminated” measles. Eliminated means the absence of measles spreading within a community. The UK is scrambling to contain surging infections due to falling vaccine uptake. The US is on a similar path.

It is very worrisome that vaccine exemptions and hesitancy in the US has led to a growing number of children who are not vaccinated and are thus unprotected. That leaves at least 250,000 kindergarten students just this year at risk for measles.

Perhaps most alarming is that measles is just the tip of the iceberg.

Vaccine refusal and hesitancy have led to the return, increase, and persistence of other vaccine preventable diseases, such as pertussis (whooping cough), mumps, Covid-19, and influenza.

Vaccine hesitancy significantly increases the risk to those who cannot protect themselves, such as babies that are too

young to be vaccinated and to people of any age who can't be immunized, even if they wanted to.

There are several reasons for vaccine refusal and hesitancy. First, when vaccines led to the elimination of measles and other serious childhood illnesses, the success of those vaccines also caused fading of the memory of childhood infections and how serious they can be, and waning of the urgency to prevent them.

Another very unfortunate reason for vaccine hesitancy that has persisted stems from a now-retracted study published in the British medical journal *The Lancet* in 1998 that falsely linked the measles-mumps-German measles (MMR) vaccine to autism. That study's conclusions were completely disproven, the article was later retracted, and Dr. Wakefield, the author of the study, had his medical license revoked. But the damage had already been done; a lot of people started to distrust vaccines.

Misinformation on the internet has been an issue for a long time, but it increased dramatically during the Covid pandemic. People were isolated at home and more dependent on social media and online communities, which made them less likely to receive balanced and verified information. This misinformation invoked a lot of fear. Imperfect official messaging, inconsistent recommendations and policies, and the politicization of science and medicine all compounded the problem. But Covid vaccines were an *incredible* accomplishment.

The speed with which it appeared that Covid vaccines were developed worried many people, but they have been proven

to be safe and effective. Paul Offit, MD, the head of the Vaccine Information Center at Children's Hospital in Philadelphia, and one of the world's foremost experts on vaccines, recently stated that the development of vaccines against Covid-19 is *"the greatest scientific or medical achievement in my lifetime"*.

Covid vaccines have saved somewhere between 1.5 million and 4 million lives worldwide, including 52,000 in the United States. They have saved \$732 billion in health care costs in the US alone. Let's not forget that more than a million Americans have already died from Covid-19. Almost all deaths from Covid have been among those who were not vaccinated, either because there were no vaccines yet, or because once they were available and recommended, they were declined.

The CDC estimates that in the US vaccines for children given from 1994-2021 will prevent 472 million illnesses, more than 1 million deaths, and save \$2.2 trillion in total societal costs.

Since Edward Jenner developed the smallpox vaccine more than 200 years ago, vaccines have been the first line of defense against deadly infectious diseases. They have saved more lives than any other medical intervention in human history. Globally, vaccines have saved 154 million lives over the past 50 years. As a physician who has been practicing pediatrics for 45 years, I have had the misfortune to see deaths from haemophilus influenza, meningitis, chicken pox, whooping cough, Covid, influenza, and other "common" childhood illnesses. Vaccines will not always keep your child from getting a disease, but they will almost

always keep your child from ending up in the hospital--or worse.

Every single day in my office I see parents who decline immunizations for their children. It saddens me. I find it very distressing to see the return of diseases that are truly preventable.

In a joint statement on March 25, 2024, the presidents of the American Academy of Pediatrics and the American Medical Association noted that:

“Online misinformation about vaccines harms patients, undermines trust in science, and places additional burdens on our healthcare system through reduced vaccine uptake. All in all, it is a barrier to protecting public health”.

To learn more, and for truthful, reliable, and scientifically based information regarding vaccines, illnesses, safety, and many other issues concerning children, I highly recommend the parenting website of the American Academy of Pediatrics:

[healthychildren.org](https://www.healthychildren.org)

Have a healthy and happy 2024!

