

**Testimony of Dr. Timothy Jacks, DO**

**UNITED STATES SENATE**

**COMMITTEE ON HEALTH, EDUCATION, LABOR, AND  
PENSIONS**

**The Reemergence of Vaccine-Preventable Diseases: Exploring the  
Public Health Successes and Challenges**

Tuesday, February 10, 2015

Esteemed Members of Congress, Chairman Alexander and Senator Murray,

My name is Tim Jacks, DO. I am a board certified pediatrician and fellow of the American Academy of Pediatrics. I work in Gilbert, Arizona and encourage on-schedule vaccinations for all my patients. Parents regularly come with questions regarding routine immunizations. Unfortunately, not every parent decides to follow the recommended CDC vaccination schedule.

Because of these refusals, the United States has recently seen a resurgence in measles cases, and we are struggling to contain this outbreak. My job is on the frontline of this outbreak. The clinics and urgent cares where I work are seeing many concerned families with possible exposures.

But I am not here today for professional reasons. The circumstances that have brought me here today are deeply personal ones.

Last month, my two young children, one battling leukemia and the other who is below the recommended age for MMR vaccination, were both exposed to measles.

Our current journey began six months ago. Our daughter Maggie had been looking a little pale and had more bruising than a rambunctious two-year-old should have. Labs were ordered. Later that evening, we received a call that shook our small family to its core.

Maggie had cancer.

Specifically, she was diagnosed with ALL – acute lymphoblastic leukemia – a form of blood cancer. Over the next week, Maggie was admitted to Phoenix Children’s Hospital, had a port placed for infusions and blood draws, had many more tests run, and was started on chemotherapy.

Since then, our family's day-to-day life revolves around Maggie's treatment. She is on a very regimented treatment protocol. She visits an outpatient pediatric specialty clinic at least weekly for blood tests and chemotherapy infusions. She takes medicines three times a day up to six at a time. She has been admitted six times in total and spent nearly a month in the hospital.

The ongoing chemotherapies have put Maggie's leukemia into remission, but they have also weakened her immune system. She is at risk for serious illness from even the most benign exposures. Any fever requires an ER visit, antibiotics, and possible admission. Because of this we stay home most of the time.

Before cancer, Maggie had been fully immunized. Now due to her weakened immune system, her previous immunity is limited, and she is unable to receive further vaccines on schedule. She will remain at risk until her two and a half years of treatment end. Eli, our infant son, has received all recommended vaccines for his age but is still too young for the MMR vaccine (given at 12-15 months of age). Because of this, my children rely on the immunity of others to protect them from measles and other diseases. When enough people are immunized, the spread of disease slows or even stops. This is herd immunity, and it is starting to break down.

Since her diagnosis, I have kept a caringbridge blog chronicling Maggie's journey through leukemia. This was my post the day after my family's measles exposure.

To the parent of the unvaccinated child who exposed my family to measles,

I have a number of strong feelings surging through my body right now. Towards my family, I am feeling extra protective like a papa bear. Towards you, unvaccinating parent, I feel anger and frustration at your choices.

By now we've all heard of the measles outbreak that originated in Disneyland. Or more accurately, originated from an unvaccinated person that infected other similarly minded vacationers. I won't get into a debate about the whole anti-vaccine movement, the thimerosal controversy (no longer even used in childhood vaccines), or the myth that MMR causes autism (there are changes in autistic brain chemistry prior to birth).

Let's talk measles for just a minute. It once was widespread in the US. It is now considered 'eliminated' in the US (not continually circulating in the population - only contracted through travel out of country). Measles is highly contagious (>90% infectious) and can survive airborne in a room and infect someone *two hours later*. Another fun fact is that measles is

transmittable before it can be diagnosed - four days before the characteristic rash appears. "Measles itself is unpleasant, but the complications are dangerous. Six to 20 percent of the people who get the disease will get an ear infection, diarrhea, or even pneumonia. One out of 1000 people with measles will develop inflammation of the brain, and about one out of 1000 will die." (<http://www.cdc.gov/vaccines/vpd-vac/measles/faqs-dis-vac-risks.htm>) That sounds fun!

Ok.

Calm down self.

I assume you love your child just like I love mine. I assume that you are trying to make good choices regarding their care. Please realize that your child does not live in a bubble. When your child gets sick, other children are exposed. My children. *Why would you knowingly expose anyone to your sick unvaccinated child after recently visiting Disneyland?* That was a bone-headed move.

Why does this affect me and mine? Why is my family at risk if we are vaccinating? I'm glad you asked.

Regarding measles, there are four groups of people.

All are represented in my family.

First, the MMR vaccine results in immunity for most who receive it. Two doses provides protection that can be confirmed with blood titers. My wife is in this group.

Second, about 3% of fully vaccinated children do not develop a lasting immune response. They have low blood titers and are not protected against measles. If exposed, this group will likely get the illness. I am in this group. I was thankfully not exposed. [Repeat testing has shown myself immune.]

Third, we have the unvaccinated. My son, Eli, is ten months old. He is too young to have received the MMR vaccine and thus has no protection. Whether by refusal or because they are too young, exposed unvaccinated children have a *90% chance* of getting measles.

Fourth, there are children like my Maggie. These are child who can't be vaccinated. Children who have cancer. Children who are immunocompromised. Children who are truly allergic to a vaccine or part of a vaccine (i.e anaphylaxis to egg). These children remain at risk. They cannot be protected ... except by vaccinating people around them.

Back to my story ...

It was Wednesday. Maggie had just been discharged from Phoenix Children's Hospital after finishing her latest round of chemotherapy. That afternoon she went to the PCH East Valley Specialty Clinic for a lab draw. Everything went fine, and we were feeling good ... until Sunday evening when we got the call. On Wednesday afternoon, Anna, Maggie, and Eli had been exposed to measles by another patient. Our two kids lacked the immunity to defend against measles. The only protection available was multiple shots of rubeola immune globulin (measles antibodies). There were three shots for Maggie and two shots for Eli. They screamed, but they now have some temporary protection against measles. We pray it is enough.

Unvaccinating parent, thanks for screwing up our three week "vacation" from chemotherapy. Instead of a break, we get to watch for measles symptoms and pray for no fevers (or back to the hospital we go). Thanks for making us cancel our trip to the snow this year. Maggie really wanted to see snow, but we will not risk exposing anyone else. On that note, thanks for exposing 195 children to an illness considered 'eliminated' from the U.S. Your poor choices don't just affect your child. They affect my family and many more like us.

Please forgive my sarcasm. I am upset and just a little bit scared.

Papa bear

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PCH has been great though this whole ordeal. We have done what is physically possible to protect our children. Now we pray. Please pray alongside us.

We are not currently contagious. Rest assured, if measles visits our house, it will not spread to anyone else.

Thank you for your prayers and support.

When I typed this entry, I had no idea it would resound so clearly with so many people. In less than two weeks, this post has received over 1.3 million shares on Facebook and reached countless readers. In addition I was featured on CNN as well as other local and national media outlets.

Both online and in my daily practice of medicine, there is a lot of confusion and misinformation resulting in resistance towards vaccinations. Some parents do not understand the wonders of the immune system and how well equipped it is to deal with the immunologic components within vaccines. Instead they believe there are too many shots for a young developing immune system. Some still hold to the debunked theory that the MMR vaccine causes autism. They are concerned about the chemicals in vaccines. They are more afraid of a vaccine reaction than getting the disease itself.

As a result, immunization rates drop. Herd immunity weakens. Outbreaks happen. Children get exposed.

My measles exposed children have been quarantined at home for nearly two weeks now, and we anxiously watch for signs of disease. Every warm forehead, every sign of rash, and every runny nose could be the start of measles, and that brings me back to why I am here.

I don't want any family to repeat what we have gone through these last few weeks.

The solution is simple. Immunize.

We need to get more children protected against these vaccine-preventable diseases. We need families to understand the present danger of exposure and the seriousness of infection – especially to the young and medically fragile among us.

Every family has a decision to make regarding vaccinations. Let's help make it a clear choice.

I urge you to have a strong, unified, bi-partisan voice supporting the scientific evidence that vaccines are safe and they save lives. We must maintain a consistent message at every level of society from the Presidency, to Capitol Hill, all the way down to our state legislators, schools and even daycares.

While there are instances where it is medically necessary to decline immunizations, state health authorities should make it less convenient to refuse and require families to receive education regarding the dangers of not vaccinating, both for the child and the larger community.

Finally, I urge Congress to take action in supporting the programs and infrastructure that gets vaccines to those that need them most and helps contain outbreaks such as measles. It is important to remember as congressional budgets are negotiated that vaccines offer the greatest cost savings of all medical treatments. We must support the access to and affordability of immunizations.

Back in Arizona, I will care for my family. I will work tirelessly in promoting health in my patients. Through my work with Every Child My Two and The Arizona Partnership for Immunization, I will continue advocating for the timely immunization of our children.

Thank you for your commitment to this issue and for caring about the children of this great nation. This issue is close to my heart as a father and pediatrician. With your help, we can put an end to vaccine-preventable illnesses and protect the innocent. We can protect our children.



From left to right, Maggie, Tim, Anna, and Eli Jacks