

United States Senate Committee on Health Education Labor & Pensions Hearing
The Reemergence of Vaccine-Preventable Diseases:
Exploring the Public Health Successes and Challenges
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I would like to thank Chairman Alexander, Ranking Member Murray and the Committee for holding this hearing on the benefits of immunization and inviting me here today to testify about the perspective and role of state and local public health in the promotion of immunization and the response to vaccine-preventable disease outbreaks.

I would like to begin by acknowledging Governor Bill Haslam and First Lady Crissy Haslam for their commitment to immunization as an essential step in promoting and protecting the health and prosperity of Tennesseans. Whether getting an annual flu shot with a smile for the cameras or championing the creation of KidCentralTN.com to help parents access services to help them raise healthy children, the Governor and First Lady have been steadfast champions of our immunization activities.

You could say that Tennessee has a culture of immunization. For the past two influenza seasons, the majority of Tennesseans age 6 months and up were vaccinated against influenza. Three out of four Tennessee toddlers are fully immunized on time by their second birthday, and most that fall short could be caught up with just one more immunization visit. Over 93% of them have had their first MMR. By the time Tennessee children start Kindergarten, 95% have a record of immunization with all required vaccines, including both doses of MMR needed to protect them from measles, mumps and rubella. Just 1 out of 100 had filed a religious exemption with the school and just over 1 in 1000 were exempted from one or more vaccines by a doctor for medical reasons.. Our school nurses and administrators take their commitment to enforcement of immunization requirements seriously, working closely with public health, families and medical offices to identify and catch up children who are behind on immunizations to keep our schools a safe and healthy learning environment.

The Tennessee Department of Health (TDH) fosters our culture of immunization by cultivating strong, supportive relationships with healthcare providers, schools, parents and the public to promote and provide immunizations needed across the lifespan. TDH programs focus on promoting access, affordability, awareness and demand for vaccines. The federal Vaccines for Children (VFC) Program is critical to our success. VFC-eligible children in our state can be vaccinated with federally-funded vaccine in any local health department and at over 500 other participating clinics and hospitals statewide. Our Section 317 federal immunization funds support the effective operation of our VFC Program, including our educational programs for doctors and nurses, and regular site visits to participating clinics by local public health staff to promote compliance with the strong accountability and quality standards expected of all participants in the VFC Program. Resources, training and people are in place to enable every doctor and nurse serving VFC-eligible children to provide the highest quality of immunization care for all of the children they serve. These Section 317 funds also help us improve lagging adolescent immunization rates by addressing awareness and educational needs among clinicians and families.

In addition to supporting the work necessary to keep the VFC Program strong, a small quantity of federal Section 317 funds are available to purchase and provide certain routine immunizations to uninsured adults in Tennessee who seek care at our local health departments. We use these same 317-funded vaccines to protect people who may be at risk of contracting a vaccine-preventable disease during an outbreak. These Section 317 vaccines also are available to us today should we need them to protect anyone who may be at risk after a measles exposure.

Tennessee has recently used federal Section 317 funds to implement a new, secure Immunization Information System, known as TennIIS, to replace a legacy system with limited functionality. The state first created its IIS, or Immunization Registry, in 1996, as a repository of immunizations administered by health departments and by any other immunization providers who chose to report them and accessible only to authorized users. Today, TennIIS is fast becoming the heart of Tennessee's immunization activities. All authorized users, such as Vanderbilt's network of clinics in middle Tennessee, can look up immunization records on their

patients. For example, the health records system used by Vanderbilt University clinics electronically updates TennIIS with the immunizations they give and pulls down information from TennIIS about immunizations given to their patients by other users who report to the system. TennIIS provides decision support for busy clinicians by instantly displaying what vaccines are due or overdue for a child, based on the current CDC schedule. This simple tool helps clinicians follow the complex current immunization schedule for optimal patient care.

Our IIS, implemented and operated with our federal Section 317 funding, is an increasingly important tool in the prevention and control of vaccine preventable diseases. Several months ago, the New York City Department of Health notified the Immunization Program that two young Tennesseans had been exposed to measles while visiting there. A call such as this is a small public health emergency because of the threat of measles. The state vaccine-preventable disease epidemiologist normally alerts local public health to reach the affected people without delay to find out if they are sick and to ask their immunization status, which they rarely know with certainty. However, a quick check of the IIS confirmed that both were up to date with MMR vaccine and almost certainly protected from disease. The typical scramble became a brief and reassuring call to the exposed individuals because the needed immunization history was readily accessible to public health.

In Tennessee, local school nurses and Coordinated School Health directors are among our most important champions of immunization. These men and women are responsible for enforcing immunization requirements for the children in their schools to ensure that schools remain a safe and healthy learning environment. They take this responsibility very seriously and are often the ones to catch problems and alert the parents and healthcare provider so they can be corrected. In 2013, the Department of Health developed and launched a function in TennIIS to simplify and improve the quality of immunization certificates for school and daycare. A simple click of the button can produce a complete, accurate immunization certificate based on a child's age and grade. If the record is incomplete, a failed validation report pinpoints exactly what is missing. Any TennIIS user can produce these, including school administrators and immunizing pharmacists. Someday, we envision that parents will be able to produce their own, further simplifying this rite of school entry.

In many counties in Tennessee, schools partner with local public health to offer influenza vaccine at school each fall. Such programs are far more complicated to organize today than in the time many people recall when children simply lined up for their sugar cubes and polio vaccine. With more expensive vaccines, consent forms, private insurance billing, VFC eligibility documentation and separate vaccine inventories for different funding sources, these programs are not easy. Despite the logistical hurdles, these partnerships strengthen the bonds between educators and public health and raise awareness about the importance of influenza vaccination for the whole community, as our statewide influenza vaccination rates show.

When it comes to immunization, local public health departments long ago ceased to be the primary providers of childhood immunizations as children's primary care medical homes have taken over this role, but we are relationship-builders and resources and we provide a safety net of access for all routine immunizations. Tennessee public health departments carry all routinely recommended vaccines for people of all ages. When it comes to concerns about vaccine safety, the Immunization Program is where the public and healthcare providers bring those questions and the Program facilitates in depth consultation when necessary with vaccine safety experts at the CDC and at Vanderbilt's Vaccine Research Program.

What I hear when I visit local clinics is that one of the most frustrating challenge to our front line public health nurses is keeping up with which people qualify for vaccines from which sources and how much they must pay. Years ago, with fewer, less expensive vaccines available, the nurses were simply focused on ensuring that no child or adult in need of vaccination left without being immunized. Today, we have federal VFC vaccine for eligible children, Section 317 vaccine for uninsured adults and state-purchased vaccines for insured children and adults ineligible for federal vaccines. Each inventory must be managed and accounted separately. Once they have finished answering questions about the vaccines themselves, explaining the differences in costs for different groups is frustrating. They spend extra time to avoid making a mistake and using vaccine from the wrong funding source. They long for simpler days, but they work very hard to immunize everyone they can and to properly account for every dose they use.

Challenging work is ahead to achieve these same high rates of immunization for vaccines designed for the preteens, teens and adults who are difficult to reach. Several of the vaccines recommended for people in these age groups are relatively new, designed to prevent diseases such as meningitis, cancer and shingles. Public health works to inform and educate the public about these vaccines, addressing misinformation and concerns about safety, affordability and health benefits.

Until recently, our local health departments did not participate in commercial insurance plans as in-network providers; a major effort is underway using federal Prevention and Public Health Funds to help local public health clinics become in-network providers in order to provide routine recommended vaccines to commercial insurance beneficiaries of any age with no out of pocket cost. Currently, patients insured by a plan we have not yet joined are asked to pay out of pocket for vaccinations at our clinics, meaning that they often leave unimmunized to try to locate an in-network provider to serve them. Some have found this challenging in areas where the public health department may be the nearest provider with the vaccine in stock. We are making progress in obtaining in-network status with major plans to help close this gap.

The dedicated and creative people who work in local and state public health, including our public health nurses, are the quiet heroes who protect the public from vaccine-preventable diseases by promoting immunization and by responding without hesitation when cases occur. In recent discussions about the ongoing measles epidemic, few have addressed how much tightly coordinated work is being done among local, state and federal public health officials in the public health response to a single case. The story of Tennessee's 2014 measles outbreak illustrates this point.

On a Friday afternoon in April, 2014, an infectious diseases doctor contacted the West Tennessee Regional Public Health Office about recently returned international traveler who had come to their hospital emergency room with classic signs and symptoms of measles. Even without laboratory results, the diagnosis was not in question. A game plan was quickly developed among the regional public health team, the state immunization program and partners in neighboring public health jurisdictions to initiate laboratory testing and to identify those who may have been

exposed in the 4 days leading up to the diagnosis when the unsuspecting patient was highly infectious while working and visiting a primary care clinic. One hundred twenty-four people were identified as contacts. Because the doctor contacted public health immediately, we gained the advantage of a small window of time to administer the MMR vaccine and protect some of the potentially susceptible contacts, if the local public health team could find and vaccinate them quickly enough. A clinic was arranged for Saturday morning and 25 contacts with uncertain immunizations were vaccinated. Those exposed more than 72 hours earlier were counseled about the illness and what to do if symptoms developed. To expedite testing, staff drove clinical specimens to the state lab for testing and shipping onward to the CDC, where CDC later confirmed the diagnosis and linked it to a large epidemic in the country recently visited by our traveler who, like the others he infected, had simply been unaware of his susceptibility.

Among the 124 people exposed to measles by our index case, just 3 secondary cases among other adults occurred. For these three, the same isolation, contact tracing and notification process was practiced, only faster. No additional cases developed and the outbreak was officially declared over in June. A total of 406 contacts were evaluated in multiple local public health jurisdictions with state communicable disease staff providing coordination and technical support. Front line staff worked with patients and contacts. The Tennessee Department of Health educated the public through the media and kept our health care community informed through our state health alert notices and a live webinar with subject matter experts. The CDC measles epidemiologists and laboratory team provided specialized laboratory testing and technical consultation to help optimize our outbreak management tactics.

Despite how well this collaboration worked, the swift resolution was achievable because of the already very high level of immunity in the general population. No one in this situation opposed or refused immunization. While prompt immunization after exposure likely prevented some cases, the fact is that the vast majority of people exposed were already immune. Increased emergency preparedness funding since 2001 has helped public health become more effective at responding to outbreaks, yet had this imported case landed among those who were unimmunized and susceptible, there would have been a very different outcome. Importations are not

completely preventable, but by sustaining a highly immunized population, such events can be managed by motivated and well-trained public health responders.

Our public health professionals, along with our clinical partners, schools and each immunized person in our community together hold back the tide of vaccine-preventable diseases that washed over past generations. Regular investments in training, support, technology, vaccines and immunization services maintain this protective infrastructure and allow us to live in health with these threats held at bay. These outbreaks of vaccine-preventable diseases are like small breaches that warn us of the threat we face should this infrastructure break down. Should it be allowed to crumble, the breaches will become larger and the consequences to our communities could be far greater.

I want to close by thanking you again for the opportunity to speak to this committee on behalf of the dedicated state and local public health professionals of Tennessee. We are justly proud of our culture of immunization in Tennessee and the health and prosperity our residents derive from it, but we have much more work to do. Our immunization culture is promoted by public health and sustained by our close, trusting working relationships with schools, healthcare providers and parents. We all work hard to prevent fear and misinformation from misguiding people about vaccines, their safety and effectiveness. People need to be able to well-informed decisions about vaccines, and such decisions can only be made with clear and reliable information from trusted sources. Our public health system continues to work to extend the benefits of high immunization rates among young children to reach preteens, teens and adults with vaccines designed to protect them. Congress's sustained commitment to our immunization programs, immunization information systems and public health will strengthen our defense against the tide of vaccine-preventable diseases that continue to threaten the vulnerable among us.