Opening Statement – Senator Lamar Alexander
Vaccines: Saving Lives, Ensuring Confidence, and Protecting Public Health
September 9, 2020

I have been reading *Guns, Germs, and Steel*, the book Jared Diamond wrote in 1997 that won the Pulitzer Prize.

He wrote that there is nothing new about epidemics that cause mass deaths and social upheaval.

And that there is nothing new about where most of the infectious diseases that cause those death come from—for the last 10,000 years humans have acquired most of our infectious diseases from animals.

During most of history there were 3 ways to deal with these epidemics.

One was to isolate the infected, as in leper colonies.

Two was that, according to Jared Diamond, over thousands of years there have been genetic changes in human populations in response to infectious diseases that cause major outbreaks, like smallpox. But that did not help Native Americans who had no resistance when European settlers arrived sometimes wiping out 90 percent of a native tribe by handing them a blanket with smallpox on it, because the tribe had not previously been exposed to the virus.

Throughout most of history the most common way to deal with epidemics was to let them run their course through populations until everyone had either been killed or recovered and therefore developed resistance against the disease. Diamond says that the Black Death killed about one third of Europe's population between 1347 and 1351 and recurred with lower death tolls for many decades thereafter.

What is new about dealing with epidemics is modern medicine, including the ability to diagnose the disease and then to create treatments to make it easier to recover.

But the true miracle of modern medicine is vaccines, which can prevent humans from acquiring the disease at all.

That is why today in all 50 states and the District of Columbia schoolchildren are required to take vaccinations for diphtheria, tetanus, pertussis, polio, measles, rubella, and chicken pox before entering school.

The vaccination will protect the child from getting the disease, which in turn prevents the child from infecting someone else – a pattern that has caused these diseases eventually to disappear.

Americans of my generation remember how polio terrified our parents in the early 1940s and into the 1950s.

Many saw their children die or be left dependent on an iron lung to breathe for the rest of their lives. Of those who contracted polio, the lucky children were like Majority Leader McConnell, who was only left with a limp. The disease terrified Americans until Dr. Jonas Salk developed the polio vaccine in the 1950s.

After the vaccine was developed, the United States undertook a large-scale vaccination campaign, and polio was declared eradicated from the United States in 1979.

The purpose of this hearing is to explore the remarkable progression science is making toward a COVID-19 vaccine, to remind parents to have their children get their childhood vaccinations, and encourage as many Americans as possible to get the flu vaccine this fall.

First, the progress toward a COVID-19 vaccine.

Dr. Francis Collins, the Director of the National Institutes of Health, is with us today to talk about vaccine research and development, including Operation Warp Speed, which is working around the clock to develop, manufacture, and distribute safe and effective COVID-19 vaccines as rapidly as possible.

Some people incorrectly believe "warp speed" means cutting corners, but it refers to the extraordinary investment in research, development, and manufacturing scale-up for a COVID-19 vaccine.

Perhaps most significantly, the Biomedical Advanced Research and Development Authority (BARDA) has taken the unprecedented step to help speed up manufacturing for hundreds of millions of doses of vaccines early in the process by buying these doses in advance so they can be ready to distribute as soon as the new vaccines are approved by the Food and Drug Administration.

Despite the speed with which scientists are developing a COVID-19 vaccine, Dr. Stephen Hahn, the Commissioner of the FDA, said the agency is not skimping on its review of safety and efficacy: "This is going to be a science, medicine, data decision. This is not going to be a political decision," he has said. That means that if the FDA determines that a vaccine is not safe or effective after reviewing the science and clinical trial results, the vaccine will not be distributed.

At the same time, CDC is working on a plan to distribute the vaccines as soon as they are authorized or approved, prioritizing vaccines for health care workers and vulnerable populations.

CDC's plan will be a fair system informed by nonpartisan health experts from the National Academies of Sciences, Engineering, and Medicine and the Advisory Committee on Immunization Practices.

Second, why are some Americans saying they won't take the vaccine? Let's address 3 questions:

Are they safe?

Vaccines are reviewed and approved by the FDA. FDA can either license a vaccine or authorize a vaccine for use during a public health emergency—and the FDA's stringent approval process is the gold standard for the rest of the world.

The vaccines that are routinely given to children are specifically recommended by the Advisory Committee on Immunization Practices, an outside group of health experts that looks at all available scientific information about each vaccine.

Medical associations like the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians work with ACIP to develop these recommendations.

In a 2015 article for Scientific American, Dina Fine Maron writes:

"By age two, most children will receive almost 30 shots designed to boost a child's natural defenses against disease. Yet at the same time, parents who take their children for those recommended vaccinations might be inundated with Web site and celebrity-espoused rumors making false claims that shots are not necessary or cause autism.

"At best, navigating this landscape can be confusing. But when weighing the risks of encountering life-threatening disease against the benefits of receiving a vaccine there's no contest. The vast majority of children do not experience anything worse than short-lived redness or itching at the spot of the injection."

Are they effective?

According to the CDC, there is evidence that smallpox was ravaging humans as early as the 3rd century BCE. The disease killed 3 out of 10 people who were infected. Then in 1796, an English doctor named Edward Jenner saw that milkmaids who had gotten cowpox seemed to be immune to smallpox, so he scratched some pus from a cowpox blister on an 8 year old boy and the boy became immune to smallpox. Jenner published his results in 1801, leading to the development of mankind's first ever vaccine, and no one on earth has naturally acquired smallpox since 1977. It is officially eradicated.

Polio was one of the most dreaded childhood diseases of the 20th century. "Following introduction of vaccines—specifically, trivalent inactivated poliovirus vaccine in 1955 and trivalent oral poliovirus vaccine in 1963—the number of polio cases fell rapidly to less than 100 in the 1960s and fewer than 10 in the 1970s," according to the CDC.

"Thanks to a successful vaccination program, the United States has been polio-free since 1979."

Diphtheria terrified parents in the 1920s but today there are only a few cases a year, according to AAP, which attributes the change to vaccinations.

Is the doctor's office safe?

The pandemic has made some parents leery of the doctors' office.

In an analysis of patient records from 1,000 pediatricians in 40 states, the immunization rate for recommended, routine childhood vaccines declined about 40 percent from late February through mid-April, according to the Wall Street Journal.

For parents who are worried about taking their children to the doctor during the pandemic, AAP says pediatricians are working to ensure their offices are as safe as possible for children to visit.

AAP published guidance in May on how pediatricians can safely conduct well-child visits during the COVID-19 pandemic.

According to AAP's Dr. Sean O'Leary, "Medical offices are among the safest places you can be right now given the really extensive measures they've taken to prevent spread of COVID-19 both to themselves and their patients. Parents shouldn't be afraid to go to their doctor."

I started my statement with comments from Jared Diamond and I will end with a warning he wrote recently in the *Wall Street Journal.*

On June 23, this committee held a hearing on preparing for the next pandemic. One member of the committee asked: Why would we worry about the next pandemic when we haven't yet conquered this one?

In a *Wall Street Journal* weekend essay on May 23, Jared Diamond provides an answer to this question: In this age of jet planes with millions of people carrying infections from one place to another overnight, the next pandemic could be next year, and we would be wise to prepare for it.

Congress tried to do that in response to the other new diseases that have emerged over the last 40 years—HIV/AIDS, SARS, MERS, and Ebola. But the good intentions evaporated as each epidemic ended.

As one example, in 2012 the Department of Health and Human Services, with the support of Congress, created three manufacturing plants so that when the next epidemic arrived, we could produce vaccines rapidly. Fortunately, two of those plants are playing a role in manufacturing hundreds of millions of doses of vaccines for COVID-19.

However there is still a need to improve and sustain these types of facilities so they are able to pivot even more quickly to the next threat when it emerges. In a similar way, stockpiles were created, but then depleted.

Former HHS Secretary and Governor Mike Leavitt told this committee that public health programs, according to testimony before this committee, have been underfunded for the last 30-40 years. The nation goes from Panic to Neglect to Panic.

Fortunately, thanks to an unprecedented effort by private sector and our government as well as scientists around the world, there is likely to be a COVID-19 vaccine ready for the most vulnerable citizens by the end of the year and hundreds of millions of doses early in 2021. Some of the challenges apart from finding a vaccine are: how to distribute it, to whom it should go first, and how to persuade Americans that it is safe to take.

But while we are in the midst of dealing with this pandemic it would be wise to remember in any legislation Congress passes this year to make sure that onshore manufacturing plants are functioning, stockpiles are full, public health is properly funded, and states have the right tools and resources. The reason to do that now, while our eye is on the ball, is because the next pandemic could be next year.

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