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Before the Senate Homeland Security Committee

Oversite of the US Tax Payer Funded High-Risk Viral Research

Chairman Peters and Ranking Member Paul, and members of the Committee, my name is Dr. Robert Redfield. I am pleased to testify today in strong support of this Committee's important work and the proposed bill designed to provide much needed enhanced oversite of the US tax payer funded high-risk viral research.

As I know this Committee is aware, from 2018-2021 I served as the 18th Director of the Centers for Disease Control and Prevention during the Trump administration. As CDC Director, I oversaw the agency's response to the COVID-19 pandemic from the earliest days of its spread and served as a member of the White House's Coronavirus Task Force.

But perhaps more relevant to the purpose of this hearing, my 45 years in medicine has been focused on the study of viruses. I am a virologist by training and practice. Prior to my time at the CDC, I spent more than 20 years as a U.S. Army physician and medical researcher at the Walter Reed Army Institute of Research where I served as the Chief of the Department of Retroviral Research and worked in virology, immunology, and clinical research at the forefront of the AIDS epidemic and other viral threats. In 1996, I co-founded the Institute of Human Virology at the University of Maryland School of Medicine where I served as the Director of Clinical Care and Research and also served as a tenured professor of medicine, microbiology and immunology; chief of infectious disease; and vice chair of medicine at the University of Maryland School of Medicine.

After my time at CDC, I served as the senior public health advisor to Governor Hogan and the State of Maryland and more recently I serve as a senior visiting fellow for biosecurity and public health policy for the Heritage Foundation.

The bill proposed in today's hearing is a very important bill. I believe that Biosecurity is the most important threat to our Nation's National Security, more so than China, Russia, North Korea and Iran.

As we witnessed during the events leading up to the recent Covid-19 pandemic, there was a significant disconnect between US funded biomedical research and our Nation's National Security interest. As I stated already, Biosecurity is our Nation's greatest security threat but most biomedical researchers don't consider this at all when making their research funding decisions. Unfortunately, Covid -19 is a great example of that fact.

During my time as CDC Director, I had the opportunity to work closely with the National Security Council and key members like Matt Pottinger and Robert O'Brien. They understood the threat from infectious diseases and I understood the profound security implications. This bill once operationalized will help ensure that the National Security implication are front and center in any final funding decision and approval. Sadly, this has not been so in the past and currently does not impact biomedical research funding decisions.

I believe Covid -19 is a consequence of this disconnect. As COVID-19 began to spread across the world, there were two competing hypotheses about the virus's origin that needed to be vigorously explored. The first hypothesis is the possibility that COVID-19 infections in humans were the result of a "spillover event" from nature. This is a situation in which a virus naturally mutates and becomes transmissible from one species to another – in this case, from bats to humans via an

intermittent species. This is what happened in previous outbreaks of SARS and MERS, earlier coronaviruses that emerged from bats and spread through an intermediate animal. It is important to note that 4 years later, I do not believe there is any meaningful evidence, only opinion, to support this hypothesis.

The second hypothesis is the possibility that the virus evolved in a lab involved in gain-of-function research. This is a type of research in which scientists seek to increase the transmissibility and or pathogenicity of an organism in order to better understanding the organism and inform preparedness efforts and the development of countermeasures such as therapeutics and vaccines. Under this theory, COVID-19 infected the general population after it was accidentally leaked from a lab in China.

From the earliest days of the pandemic, my view was that both theories about the origin of COVID-19 needed to be aggressively and thoroughly examined. Unfortunately, that did not happen. Based on my initial analysis of the data, I came to believe then—and still believe today—that available data indicates COVID-19 infections was the direct result of biomedical research and a subsequent accidental lab leak. Unfortunately, the potential National Security consequences of conducting this research did not receive full consideration prior to the decision to fund and conduct this high-risk research.

Understanding the origins of COVID-19 remains critical for the future of scientific research, particularly as it affects the ongoing ethical debate around the conduct of gain-of-function research. Gain-of-function has long been controversial within the scientific community, and, in my opinion, the COVID-19 pandemic presents a case study on the potential dangers of such research.

While some believe that gain-of-function research is critical to get ahead of viruses by developing vaccines, in this case, I believe it had the exact opposite result, unleashing a new virus on the world without any means of stopping it and resulting in the deaths of millions of people and changing our Nations way of life more profound than even a nuclear event.

More importantly, Covid-19 is not our Nation's last pandemic. I am particularly concerned about bird flu. Currently H5N1 is pandemic among chickens, turkey and wildfowl in the US. It has recently spread to more than 25 other US based mammals, most recently dairy cattle. While H5N1can rarely infect humans, it currently cannot efficiently transmit human to human however the virus will continue to evolve in nature towards this goal. However more likely, as I believe was the case for Covid-19, H5N1 could be educated in a research lab to accomplish this. A human transmissible bird flu will be catastrophic. While this proposed legislation can't prevent natural spill over, it could reduce the risk of a lab driven event.

It is my opinion that we should call for a moratorium on all gain-of-function research until we can have a broader debate and come to a consensus as a community about the value of gain-of-function research. This debate should not be limited to the scientific community and it is critical that the National Security implications carry significant weight in making any future funding decision. If the decision is to continue gain-of-function research then it must be determined how and where to conduct this research in a safe, responsible and effective way that does not compromise our National Biosecurity. The proposed legislation would be critical to achieving this.

Again, Chairman Peters and Ranking member Paul, thank you again for inviting me to be here today to share my perspective. I look forward to answering your questions.