



Decoding the human immune system to transform health for all

October 26, 2017

Dear Friends,

It has been almost 100 years since the 1918 Spanish flu pandemic killed more than 50 million people and infected over one-third of the world's population. Nearly a century later, influenza still looms as one of our greatest global public health risks.

Each year, between 250,000 and 500,000 people worldwide die from influenza despite the availability of seasonal flu vaccines. While progress has been made in understanding the influenza virus, seasonal vaccines fall far short of what we need. The next influenza pandemic will certainly occur in the future, and the world is unprepared for it. We are long overdue to solve this very real global health threat.

I am proud to share with you today that the Human Vaccines Project is launching the [Universal Influenza Vaccine Initiative \(UIVI\)](#) together with leading academic, corporate and government partners.

Our focus is to find out what generates an effective immune response against influenza in all populations in order for a vaccine to be maximally effective. This research will lead to the development of a universal influenza vaccine that provides broad, long-term immunity against influenza in globally diverse populations. Clinical trials will get underway in early 2018.

I am sharing more details about the UIVI program below.

Please reach out to me with any questions. We appreciate your continued support.

Best,

Wayne

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THE HUMAN VACCINES PROJECT LAUNCHES NEW INITIATIVE TO ACCELERATE DEVELOPMENT OF UNIVERSALLY EFFECTIVE INFLUENZA VACCINES

The Human Vaccines Project, a public-private partnership with a mission to decode the immune system to advance human health, announced today the launch of the Universal Influenza Vaccine Initiative (UIVI), a first-of-its-kind program that will address the underlying scientific barrier impeding the development of broadly protective, universal influenza vaccines: the human immune response.

According to the World Health Organization (WHO), influenza is estimated to kill between 250,000 and 500,000 people around the world every year. As the world becomes more interconnected, the risks for a new pandemic continue to increase, carrying the potential for widespread social, economic and political upheaval. A universal vaccine, once developed, would protect everyone regardless of age, gender and geography against all strains of influenza, making significant strides toward preventing a global catastrophe.

“While great progress has been made in understanding the influenza virus, seasonal vaccines are not consistently effective and people remain highly vulnerable,” said Wayne C. Koff, PhD, President and CEO of the Human Vaccines Project. “The public health disaster of the 1918 pandemic that infected a third of the world’s population and killed over 50 million looms heavy. We are long overdue to solve this very real global health threat.”

Koff adds, “There are many public and private sector resources dedicated to developing new and improved influenza vaccines, but they are all primarily focused on one part of the problem – making the vaccine. What makes the UIVI distinct is that we are focusing on understanding the second part of the puzzle – the human immune response. We have to find out what generates an effective immune response against influenza in all populations in order for a vaccine to be maximally effective.”

The Project’s influenza vaccine initiative, led by Dr. James Crowe Jr., Director of the Vanderbilt Vaccine Center, and Dr. Clarence B. Creech, Director of the Vanderbilt Vaccine Research Program at the Vanderbilt University Medical Center in Nashville, Tenn., will launch a series of influenza vaccine clinical trials in globally diverse populations beginning early in 2018. Researchers based at the Project’s scientific hubs at the University of California San Diego, The Scripps Research Institute, the La Jolla Institute for Allergy and Immunology, and the J. Craig Venter Institute, and partners at the University of British Columbia and the Lawrence Livermore National Laboratory, will conduct a broad spectrum analysis of blood and tissue samples from vaccinated and infected individuals, coupled with artificial intelligence driven computer simulation models, to decipher the elements of protection against influenza and determine why some people are protected while others are not.

“These trials will be among the most comprehensive human clinical research studies ever undertaken. They will determine how the immune system protects against different strains of

influenza in different populations and geographic regions of the world, and what is required for a vaccine to generate long-term protective immunity,” said Dr. James Crowe Jr., Director, Vanderbilt Vaccine Center. “Understanding how all elements of the human immune system function together to recognize diverse viruses is the key to a universally effective influenza vaccine. Until now, we have lacked the biomedical and computational tools to probe the complex and dynamic features of the human immune system in a complete way. But with today’s technology, we can decipher the core principles behind how the immune system protects vulnerable populations, and develop a full understanding of how it prevents and controls influenza to inform the development of a universally effective vaccine.”



Human Vaccines Project

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