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SANTA BARBARA • SANTA CRUZ

January 31, 2020

The Honorable Diane Feinstein
United States Senator
331 Hart Senate Office Building
Washington, DC 20510

Re: Dire need for California Response and Protection from Emerging Viral Threats

Dear Senator Feinstein:

We write with concerns over the paucity of federal funds aimed to protect global health security, especially efforts to protect California and the world from emerging diseases, such as Ebola and the novel coronavirus (nCoV) that has emerged in Wuhan China and traveled to our state. With this letter we express our strong support for programs to identify viruses, including this nCoV and other yet-to-be-recognized deadly viruses, and to request funding for federal global health security programs that directly contribute to efforts to prevent epidemics and pandemics by strengthening systems in our state and beyond to understand novel and changing viruses and their transmission risk. Recent efforts have been instrumental in the development of prevention programs and the strengthening of health systems to identify those diseases when they emerge in order to stop them in their tracks at their sources, but funding for those types of programs have been recently reduced or re-directed to other activities just when we need them most, as evidenced by the tragedy in China with impacts to the global economy and widespread fear and even panic in California. For example, the University of California, Davis has led the US Agency for International Development's Emerging Pandemic Threats' PREDICT Project for the past ten years to do just that. Touted by USAID as one of its most successful projects (and we are told, the largest single global health security project funded by the US), our California-led program identified 1,200 viruses of public health risk and characterized them for public health managers around the world to help clinicians and laboratories be ready to diagnose and treat emerging viral diseases. With USAID's support, we strengthened the capacity in 60 laboratories in the world's most vulnerable locations for disease emergence, as well as here in California, to be able to detect these viruses closer to where they can and have spilled over into people and protect our people at home.

PREDICT helped to prepare Chinese scientists for disease emergence and raised the flag of awareness there for viruses that can spillover from wildlife, especially in food markets. We made sure that scientists and government officials were aware that they have epidemic and pandemic potential. We believe that we dramatically improved the response capacity there by working with colleagues in the Wuhan Institute of Virology (WIV) who helped to identify the virus and share information about it with the world in just days, rather than the months between these steps during the SARS outbreak. We believe that without this help, the situation could currently be far worse. Specifically, PREDICT strengthened capabilities at the WIV in the form of training, protocols, funding for equipment, and by enhancing international collaboration with key scientists there and in the greater global community. UC Davis' collaboration with the PREDICT country coordinator for

China, Dr. Zhengli Shi, and with supplemental funding from NIH, provided critical data on the group of CoVs that Wuhan nCoV belongs to. In China alone, we sampled >10,000 bats and ~2,000 other mammals, using PREDICT protocols to discover 52 novel SARS related-CoVs, including the closest relative of the Wuhan nCoV.

Our team also showed the serological evidence that people living at the wildlife-human interface in rural China are being exposed to these SARS-related coronaviruses – marking them as a ‘clear and present danger’ and showed the behavioral risk evidence for exposure and fevers of unknown origin were related to animal contact. PREDICT also built capacity and equipped and trained labs in numerous countries that are now supporting the diagnosis of the virus and supporting its control in those countries. For example, our partner lab in Nepal detected the first case in that country, while UC Davis professor, Dr. Christine Kreuder Johnson, and an Axios HBO crew were there this month, and the diagnosis was confirmed by Dr. Tracey Goldstein and our lab team in Davis. At a larger scale, PREDICT project findings demonstrate the importance of multi-sectoral, One Health collaborations in emerging infectious disease control and prevention, especially to address the repeatedly demonstrated risks from human-animal behavioral interactions. This approach has clearly been taken on board by the Chinese authorities investigating Wuhan nCoV, which includes our collaborators.

The Wuhan coronavirus outbreak has unfortunately provided a timely reminder as to just how important global health security programing is and how consequential inaction or an insufficient response can be – on Monday, January 27, 2020 US stocks had their worst drop in months amid fears of the coronavirus; more than 170 people have died in China, with likely more than 10,000 infected. In the United States, hundreds of people are under medical watch, and it is only in the beginning stages. As you know, California is playing a critical role in returning our citizens from Wuhan in a healthy and safe manner and in caring for infected individuals. It is safe to say that many thousands of Californians are being affected, as people have begun staying home from work for fear of mixing with others and becoming infected, all while trained response teams, such as our own laboratory staff who are among the most highly-skilled people in this area, are being laid off because of re-directing of federal funds to other priorities, as the ten year PREDICT Project has come to an end.

Our California programs lead the world in expertise on zoonotic diseases, or diseases that move between animals and humans. These are diseases such as Ebola, SARS, Influenza, and the Wuhan Coronavirus. The Wuhan nCoV is now in at least 19 other countries. Faced with a globally interconnected economy and trade, and with multiple modes of transit, the only way the United States will stay safe amid these types of viral threats is to strengthen the global capacity to detect, identify, and understand these deadly viruses and be able to treat and contain them wherever they may emerge. Our government programs are critical in advancing the discovery of emerging viral threats and rapid detection of those that are on the high-risk watch list that the PREDICT Project has developed, preparing for early detection at their animal sources and helping to contain viral outbreaks that have the power to devastate human life, overwhelm public health systems, and drain economies around the world.

It is this exact reason that so strongly underscores the value of programs like the PREDICT project and the need to continue their support. In addition to strengthened capacity in 60 laboratories to do viral detection and discovery in more than 30 countries around the world where field surveillance, biosafety and security, and wildlife conservation efforts have been improved, our team has discovered a new ebolavirus and identifying pathogens, such as Marburg virus (<https://www.ucdavis.edu/news/marburg-virus-found-sierra-leone-bats>) in areas, host species, and

human-animal risk interfaces where they were not previously known to exist before the disease was diagnosed in people, evidence that we can be ready for spillover rather than just sitting and waiting to respond to outbreaks.

UC Davis is home to the One Health Institute and has pioneered the One Health approach that addresses complex health problems on a platform that recognizes that the health of domestic animals, wildlife, and people are inextricably linked with each other and the environment. Home to the top veterinary school in the world, UC Davis is incredibly passionate about and ideally suited to engage in this important work. UC Davis has made substantial investments in our One Health Institute and the collaborative and transdisciplinary culture at UC Davis that can draw upon a wide array of expertise from agricultural scientists, anthropologists, economists, educators, engineers, entomologists, epidemiologists, hydrologists, microbiologists, nutritionists, physicians, public health professionals, sociologists, and veterinarians and provides a rich array of experience and exposure to the future scientists, lab technicians, and health professionals allowing them to perfect their craft to protect and enrich California and the world. The PREDICT Project and other federal global health programs importantly help promote this ecosystem training the future viral fighting workforce, and the expertise it generates is especially beneficial to California with its location, international economy, and major ports of entry at San Francisco and Los Angeles.

Only with federal global health security programs and worldwide scientific efforts that are developing from our generation of ideas, technology, and spirit of collaboration, such as the related and empowering Global Virome Project (globalviromeproject.org), can we hope to fully address, prepare for, and control viral outbreaks and pandemic threats. With continued support and diligence, we can reasonably hope to have better characterization of viral risks in terms of geography, hosts, risk interfaces to enable prevention measures, public health campaigns, differential diagnoses by clinicians, and possibly even early development of prophylactics and treatments when warranted. If able to continue, these efforts will enable the ability to identify and control the transmission of viruses from animals to people at the source at the earliest possible stages of spillover, and ultimately, lower the risk for and impacts from future outbreaks.

For these reasons we strongly encourage continued, robust federal investment in global health security programs and respectfully request your support in ensuring this critical work continues. Should you have any questions or require further information, please don't hesitate to reach out. We want to be a resource for you. Please contact Brandon Minto, Director of Federal Government Relations at bjminto@ucdavis.edu or at 530-750-9080.

Sincerely,

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Michael D. Lairmore
Dean

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