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Zika in the Western Hemisphere: Risks & Response
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Thank you Chairman Rubio, Ranking Member Boxer and distinguished members of the Subcommittee for inviting me here today to testify on the U.S. Agency for International Development's (USAID) response to the Zika virus outbreak. I want to thank you for your continued leadership and commitment to global health and global development issues. We see you as partners in USAID's mission to end extreme poverty and promote resilient, democratic societies while advancing our security and prosperity.

Zika cases currently have been identified in 49 countries, 40 of them in the Americas. More than 298 million people live in Zika-suitable transmission zones within the Americas. In 2015, over 5.4 million births occurred in these environmentally suitable areas and during times of year when transmission is most likely to occur. Additionally, summer peak travel between the United States and the countries of Central America, and the Caribbean coincides with peak seasonal mosquito abundance. We do not yet know the extent to which pregnant women or their children in much of the region have been affected. While there is still a great deal to understand about Zika, and the current set of tools we have are limited, there is still much we can do to help those at risk protect themselves and reduce the impact of Zika on pregnant women and their babies.

Today, I would like to briefly describe USAID's work at country, regional and global levels with partners in the U.S. government and with regional and international partners, I will also share with you some of the opportunities and challenges that we are all facing.

USAID has been working closely with partners across the U.S. government to implement our collective response to the Zika outbreak. This collaboration aims to minimize the number of pregnancies affected by Zika virus transmission. Together, U.S. government agencies plan to undertake surveillance efforts to identify the progression of the Zika virus, diagnose infections when they occur, provide care and support for pregnant women who have been identified as having contracted the Zika virus, and take efforts to prevent further infections. We are also working jointly to accelerate innovation and research across each of these categories of response.

Most of these international efforts are being undertaken with $211 million that USAID reprogrammed from the planned Ebola response effort. Of that total, USAID has provided $78 million to our colleagues at the Centers for Disease Control and Prevention (CDC) to capitalize on their expertise in surveillance, laboratory testing, public health response, and entomology to ensure accurate detection of infections and evaluation of Zika control measures. We also count on CDC to leverage key research studies and evaluations that will help us better understand this

virus. While Dr. Frieden may provide more details on these efforts, I think it is important to highlight the value of learning as much as we can about the virus. Each new piece of evidence allows us to more effectively shape our responses. For example, when we initially planned our response to Zika and submitted the Administration's request for additional funding, we were unaware of the relative risk of sexual transmission. Now, armed with that information, we know that our efforts must target both pregnant women and their partners in order to be effective, and we have adjusted our plans accordingly.

With the balance of $133 million, USAID is working through existing country systems to reduce the risk of new infections, particularly in pregnant women, and provide care to those known to be affected. USAID has a long history of supporting countries in Latin America and the Caribbean, which culminated with technical assistance to ensure that health systems could be responsive to changing circumstances. In many cases, we successfully concluded nearly 50 years of assistance through a deliberate process that was designed to ensure that countries could effectively continue to advance the health of their populations. We know that in many of these countries, inequities exist and that hard wrought gains can be easily damaged by an economic or political crisis. For example, USAID's health program in Honduras is successfully concluding this year, having been extended from its original end date as a result of instability constitutional crisis that occurred as we were just beginning our phase-out plan. Our focused efforts over the last five years of this graduation process successfully resulted in a 16 percentage point increase in women delivering their babies in healthcare facilities. Yet, the Honduran government still has more work to do; there is a 40 percentage point gap between the rate at which the richest women deliver in a facility when compared to the poorest women. Bearing this in mind, our response to Zika will seek to further support and strengthen country systems, including those responsible for ensuring pregnant women have access to quality prenatal care.

We have designed our efforts to ensure that a short-term focus on mitigating the impact of Zika does not undermine systems, but rather solidifies the legacy of USAID's impressive health assistance gains in the region. Efforts that both strengthen host country systems and impact Zika require a more narrow focus to ensure a strategic use of available resources. We want to ensure that all efforts relate directly to minimizing the negative pregnancy outcomes associated with Zika infection. We will do this by improving the quality of Zika prevention and care services through both public and private sector delivery channels and also by ensuring that communities are engaged with implementation of measures that will reduce the risk of Zika infection in pregnant women.

USAID's response is focused on four interconnected lines of effort: Innovation, Vector Control, Social and Behavior Change Communication, and Service Delivery related to: family planning, antenatal and postnatal care, as well as child development and care for families with infants affected by Zika. I will briefly present our programs and approach in each of these areas:

Vector Control: Our activities aim to improve, expand, and focus existing vector management systems, networks, and programs in Zika-affected or at-risk countries to reduce *Aedes* mosquito populations. Preliminary findings from vector control capacity assessments in our priority countries indicate that the capacity of national vector control programs to conduct surveillance and vector control activities is weak and investments are needed to improve public

health entomology and protect pregnant women. These assessments will be finalized in August 2016 and we will have concrete recommendations that will inform and direct our partners' activities in this area. However, based on the preliminary results, we plan to support regional trainings and technical assistance to bolster inclusion of quality vector control approaches into national vector control programs, while monitoring mosquito populations for resistance to insecticides and to determine the effectiveness of vector control interventions. Through our community engagement efforts, we will implement household-to-household vector control in at-risk or affected communities. Specifically, households will learn how to eliminate sources of standing water in which *Aedes* mosquitoes breed and scrub containers for mosquito eggs. Larvicides will be used in standing water sources that cannot be easily eliminated. We will purchase and distribute the required vector control commodities to public and private sector partners, and we will build country capacity to conduct GPS mapping of breeding sites, which will provide us with information to forecast areas at heightened risk of transmission in real time.

Social and Behavior Change Communication: Social and behavior change communication and community engagement approaches put the community at the forefront of managing their risks in prevention and management of the disease. We have learned from previous emerging disease outbreaks that effective risk communication and community engagement from the outset and throughout the course of public health emergencies is essential for effective disease control. As an example, we saw that in order to control the recent Ebola outbreak, strengthening clinical services alone is not enough. We expanded our work with communities to better understand their cultural practices, including traditions around burial practices. By actively engaging communities and understanding local cultural practices, we were able to encourage safer behaviors, while still respecting community traditions and long held beliefs. These social and behavioral interventions, combined with effective biomedical interventions, played a key role in effectively controlling the outbreak.

In order to tackle the worst effects of Zika, we will also need to earn the full engagement of at-risk communities so they are committed and effective partners in prevention and control activities. Our approach is aimed at enabling communities, households and individuals affected by and at risk of Zika to better understand their risks and practice key protective behaviors to minimize negative pregnancy outcomes. The overall approach will work through global, regional, national, and local levels to implement effective social and behavior change interventions designed to minimize negative pregnancy outcomes by focusing on the most at risk and vulnerable audiences: pregnant women, women of reproductive age and their partners, in households and communities in lower resource settings. With community involvement and the benefit of local perspectives, we will use the most appropriate channels to encourage behaviors for personal protection including use of repellents, long-sleeved clothing and condoms, to promote prevention, community response and care-seeking. These activities will be closely monitored for effectiveness and adjusted based on the results of that monitoring. Effective messages and approaches will be shared region-wide.

Service Delivery: In order to truly mitigate the impacts of this virus, we must improve access to healthcare services for women of reproductive age in Zika-affected or at-risk communities. These services include antenatal and postnatal care, child development, and

family planning services. A key component of improving access to services is improving providers' capacity to deliver quality Zika-related healthcare and social services to women of reproductive age, particularly pregnant women, families, and children affected by Zika. Although most countries have issued Zika care guidelines, the rapid evolution of the evidence base requires constant updating of the guidelines, and the need for more specific protocols and procedures.

Our service delivery approach begins before a woman becomes pregnant by ensuring that women, adolescents, and couples in Zika-affected areas who may wish to plan to delay or limit future pregnancies can access information, services, and methods regarding family planning. We must reach women who are considering becoming pregnant, and may wish to delay or limit pregnancies; as well as women who have unmet need for family planning, and want to prevent unintended pregnancies. For women who are currently pregnant, providers must be trained to counsel them and their partners on the need to prevent sexual transmission of Zika through condom use.

Once a woman becomes pregnant or has a baby in a Zika-affected area, USAID is committed to helping her receive cost-effective, high quality maternal and child health services, with an emphasis on respectful care of pregnant women and infants with suspected congenital Zika syndrome. Therefore, our work will focus on strengthening antenatal care services for all pregnant women including counseling on prevention (repellents, condoms, and other measures) and validating women's fears and concerns. Within this, we will have a special focus on strengthening antenatal care and delivery services for women with suspected Zika infection during pregnancy, including psycho-social support for the family and specialized newborn care at delivery. Through policy-level engagement, USAID will work with partners and with host countries to improve awareness of Zika-linked health conditions in children and ensure the engagement of all relevant ministries including education, family welfare, etc. for the care and support of Zika-affected families and children.

At the present time, we are not planning to focus our resources on care for children born with Zika congenital syndrome. However, this could become a growing area of need if we are unable to mount an effective response as soon as possible. As the need for this population becomes more evident or with additional resources, we will explore the effects of congenital Zika syndrome for infants with suspected cases, including the application of basic neurodevelopmental monitoring and therapy including early stimulation.

Innovations: While we are utilizing all the tools in our toolbox to mitigate the impact and spread of the Zika virus, many of these tools have limitations to their effectiveness and scalability. *Aedes* mosquitoes, for example, are less susceptible to standard vector control approaches like indoor residual spraying, as they tend not to rest on the walls where insecticides would be typically sprayed. They also can breed in the smallest of containers--even a plastic water bottle cap--rendering large-scale larvicide approaches impractical. Available products to protect individuals from being bitten require frequent replenishment or reapplication and often are unappealing to end users, due to factors like smell, skin or eye irritation, and comfort. And, few homes, schools, or other buildings have screens on their windows. As a result, USAID has partnered with colleagues from across the U.S. Government -- from BARDA, CDC and NIH to

the Departments of Defense and Homeland Security -- to identify promising innovations under development within each agency and figure out how to bring cutting-edge technological advances to the developing country context. Within USAID we worked quickly to launch a new Grand Challenge, called "Combating Zika and Future Threats," to enhance our capabilities in both the short and long term by sourcing innovations that mitigate the spread and impact of the Zika virus and improve our ability to prevent, detect, and respond to future infectious disease outbreaks, like Zika. We sought solutions--from new ways to reduce mosquito populations, to new options for preventing mosquitoes from biting or transmitting Zika to humans, to entirely new ways to detect and respond to Zika infections. We sought creative ways to educate and mobilize entire communities--from entrepreneurs, scientists, engineers, students, and others around the world. We received an overwhelming response, with nearly 1,000 ideas from over 60 countries, and we are moving rapidly to identify those ideas with the most promise for curbing the current Zika outbreak and preventing such outbreaks in the future.

Unfortunately, current resources do not allow USAID to implement these response efforts region-wide. We cannot even implement them in all areas most at-risk for Zika. We have chosen to focus our efforts on countries at risk for adverse outcomes from Zika due to predicted number of cases (based on experience with dengue and chikungunya), with relatively weaker government capacity to respond to those cases, and where we expect that local governments will want robust support from the United States. These countries include Haiti, Guatemala, El Salvador, Honduras, and the Dominican Republic. Within these countries we believe that we can rapidly scale up to full implementation of our strategic set of anticipated activities and maintain these programs for several months. However, without additional resources, we would be forced to choose between cutting off programming before it can have lasting impact in our priority countries or eliminating any impact beyond the priority countries. For example, in the next set of countries USAID would work with, which includes Nicaragua, Jamaica, Paraguay, and Peru, we planned to fund technical assistance and support at the national level across the range of intervention areas. Without additional funds, these plans would need to be reconsidered against the consequences of stopping programs too soon in the first set of countries.. Our ability to truly have an impact on the spread of Zika is limited if we cannot cover more at-risk areas.

We were appreciative of receiving Congressional support to move forward with the reprogramming of funds on April 26. In the month of May alone, we completed a new Interagency agreement with the Centers for Disease Control and Prevention and were able to transfer the full $78 million to enable them to get started on critical surveillance and research activities. We were also able to obligate an additional $14 million to partners to work primarily in the service delivery and behavior change areas. Those partners quickly began meeting with Ministries of Health in the five target countries; coordinating with the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), and the Pan American Health Organization (PAHO) on national level communication strategies; conducting rapid assessments of existing tools and resources available to service delivery providers; assessing the capacity of countries in behavior change communication, service delivery, and vector control; as well as creating a Zika resource web platform, the Zika Communication Network (http://zikacommunicationnetwork.org/)- a source for global Zika prevention and preparedness materials as well as for research and development updates. In mid-June, along with partners, we kicked off a Zika-related discussion on the Springboard virtual platform, titled ***"Communicating***

About Zika: Messaging for Pregnant Women and Women of Reproductive Age," that drew a record 700 people to the discussion, while tweets related to the discussion have reached over 60,000. Additionally, in our priority countries, USAID-supported private not-for-profit health organizations are developing provider training materials and behavior change messages at Ministries of Health request that will be applied in their networks and shared with the public sector. Both the private and public sectors are working together to align messages under the leadership of governments.

Soon activities will be conducted to determine gaps in care processes around the availability and quality of family planning, antenatal and immediate newborn care in our focus countries. These activities will be conducted in collaboration with in-country universities, allowing us to better understand where needs are greatest and ensure that our response efforts are well aligned. At the same time, we are preparing to roll out online and in-person training courses to reach large numbers of health professionals as quickly as possible. We are also beginning partnership activities with UNICEF and PAHO in the region and with the World Health Organization in Geneva to address growing needs on a global level and outside of the Western Hemisphere. By the end of this month, we expect to be able to begin our vector control and entomological activities and then through August and September our community engagement and innovations activities will be rolled out.

A four-month time period to initiate such a broad range of activities in countries and areas where USAID does not have ongoing health projects is a very fast rate of start up. In this time period, we will have completed the required analyses to ensure that our efforts comply with environmental safeguards and standards, we will have established new awards through full- and-open competition and made necessary modifications to other awards in order to accommodate the Zika response efforts. The current timeline means that we will not achieve full implementation until the end of the typical rainy season in Central America and the Caribbean. However, we are still confident that these resources and additional resources made available in the near future will allow us to be prepared with programs in place in order to have an immediate impact on next year's rainy season and the upcoming rainy season in South America. And finally, the efforts I have described will serve to strengthen country health systems and allow us to leverage this strength for improved impact.

Conclusion

USAID is committed to addressing the Zika virus outbreak of today and strengthening capacities to ensure that this threat will be mitigated as much as possible. Thank you for the opportunity to speak with you today and to share the contributions we are making. I am happy to answer any questions.