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UPDATE ON THE ZIKA VIRUS IN THE REGION OF THE AMERICAS

Background

1. The Zika virus (ZIKV) is a vector-borne virus transmitted most frequently by *Aedes aegypti* and *Aedes albopictus* mosquitoes and is similar to dengue and chikungunya viruses. Recent evidence indicates that other mosquito species may be able to transmit the virus as well.
2. Following the reemergence of Zika virus in the Western Pacific Region in 2007 on the island of Yap (Federated States of Micronesia), a cluster of autochthonous transmission of the virus was confirmed in 2014 on Easter Island, Chile, concurrent with circulation on several other Pacific islands.
3. In February 2015, health authorities in Brazil began investigating cases of rash illness in the country's northeastern states. The investigation led to laboratory confirmation of autochthonous transmission of Zika virus in May 2015, representing the first documented transmission of the virus on the continental platform of the Region of the Americas.
4. The purpose of this report is to provide an update on the epidemic in the Region of the Americas as well as on the response of the Pan American Health Organization (PAHO).

Situation Analysis

5. Although the detection of Zika virus disease in the northeastern states of Brazil was confirmed in May 2015, a retrospective analysis of specimens revealed that the virus may have circulated in the Region much earlier—molecular clock phylogeny points toward an introduction into Brazil as early as May 2013.
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6. Before 2013, Zika virus disease had been described as a mild, self-limiting illness associated with fever, rash, joint pain, and conjunctivitis. However, it became apparent during the outbreak of ZIKV in French Polynesia that there was a marked spatial and temporal association between ZIKV and Guillain-Barré syndrome (GBS). Similarly, the northeastern state of Bahia in Brazil, which reported extensive circulation of ZIKV, also detected increases in neurological anomalies, including GBS, by July 2015.

7. During August 2015, obstetricians and pediatricians from three states in northeastern Brazil (Pernambuco, Paraíba, and Rio Grande do Norte) reported a perceived increase in cases of microcephaly in their clinical practices. These anecdotal reports were corroborated in October 2015, when a significant increase in detection of cases of microcephaly was confirmed in Pernambuco. In addition, there was compelling evidence that many of the mothers of the children with microcephaly reported experiencing a febrile rash during their pregnancies.

8. The geographical range of ZIKV has rapidly expanded, and mosquito-borne transmission of the virus had been detected in 42 countries and territories in the Region as of 29 July 2016. Additionally, five countries have reported non-vector-borne transmission of ZIKV, likely through sexual contact.

9. As countries experience widespread transmission of the virus, increased detection of GBS and/or detection of ZIKV among cases of GBS has been reported in 15 countries and territories in the Region: Brazil, Colombia, the Dominican Republic, El Salvador, French Guiana, Guadeloupe, Haiti, Honduras, Jamaica, Martinique, Panama, Paraguay, Puerto Rico, Suriname, and Venezuela. Cases of microcephaly or congenital malformations believed to be associated with congenital ZIKV infection have also been detected in nine countries and territories in the Region: Brazil, Colombia, El Salvador, French Guiana, Martinique, Panama, Paraguay, Puerto Rico, and the United States of America.

10. On 1 February 2016, the World Health Organization (WHO) declared a Public Health Emergency of International Concern (PHEIC) in response to the rapid expansion of the virus, along with increasing evidence associating ZIKV with a cluster of microcephaly in Brazil and other adverse neurological outcomes.

11. Considering the possible associated complications observed with ZIKV infection, the impact of this virus on the health and wellbeing of the peoples of the Region has been and could continue to be substantial. Most importantly, the treatment of serious complications associated with ZIKV infection could pose an important burden on the provision of health services and on the livelihood of affected families.

Response of the Pan American Health Organization

12. Within days of the confirmation of ZIKV in Brazil, PAHO issued an epidemiological alert, “Zika virus infection,”¹ with the objective of preparing countries

¹ Available at: <http://bit.ly/1JSNjj8>.

for the potential introduction of the virus. The alert described the infection and provided Member States with recommendations for leveraging existing dengue and chikungunya surveillance systems to increase their sensitivity for detecting possible cases of ZIKV infection. This initial publication primed the massive effort of the Pan American Sanitary Bureau (PASB or the Bureau) to provide Member States with up-to-date information and technical guidance as the epidemic unfolded, including posting of weekly epidemiological updates tracking the epidemic's evolution and geographic spread.

13. In December 2015, the Bureau activated an Organization-wide Incident Management Structure (IMS), which enabled the release of funds from the PAHO Epidemic Emergency Fund and triggered a series of mechanisms that would allow the reinforcement of PASB's response to the introduction of the virus in the Region. During the following months, the PASB IMS, in close coordination with the equivalent structure established at WHO headquarters in February 2016, triggered the release of funds from the WHO Contingency Fund for Emergencies. As of 29 July 2016, PASB has received US\$ 4,157,217 to support the roll-out of activities outlined in the "Strategy for Enhancing National Capacity to Respond to Zika Virus Epidemic in the Americas." The strategic framework revolves around the following elements: *a*) timely monitoring of the evolution of the epidemic in its multifaceted aspects; *b*) risk reduction through vector control; *c*) enhancement of response capacity with a focus on health services, risk communication, and mass gatherings; and *d*) development of a regional research agenda on ZIKV to address the growing gaps in knowledge. An estimated \$15 million is required to ensure the optimal implementation of this strategy. PASB is engaging key donors and partners to bridge the 72% funding gap which remains at this time.

14. The evolving nature of the virus required that the Organization implement an agile and reactive mechanism to respond to the PHEIC affecting most of the Member States and territories within the Region. Using knowledge gained through its response to other arbovirus outbreaks (with particular reference to chikungunya, dengue, and urban yellow fever) and analyzing the emerging information from Brazil, the Organization deployed multidisciplinary technical field missions, in some cases on multiple occasions, involving the mobilization of over 80 staff and external experts, including through the Global Outbreak Alert and Response Network (GOARN) and WHO collaborating centers. The expertise represented in the in-country mission teams encompassed an array of technical areas (e.g. antenatal care, clinical management, entomology and vector control, epidemiology, health and laboratory services, neonatology, neurology, public health, radiology services, and risk communication). Various missions were also conducted in relation to preparations for the XXXI Summer Olympics and Paralympics Games, held in Rio de Janeiro, Brazil.

15. Since the declaration of the PHEIC, the Organization has concluded: *a*) 58 technical cooperation missions to 26 countries² and various territories, *b*) eight regional meetings (on bioethics, clinical surveillance, congenital syndrome associated

² Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

with Zika virus infection, pregnancy management, public health entomology, research, reproductive and sexual health, and risk communications), and *c*) eleven subregional workshops (six on vector control and surveillance, pregnancy management, surveillance, response management, laboratory, and risk communications in the Caribbean, and five on surveillance, vector control, and laboratory in Central and South America). Additionally, PASB is organizing an upcoming workshop in Barbados to discuss the clinical management of severe neurological complications associated with Zika virus infections. The technical cooperation missions included broad, integrated missions across the pillars of the response as well as others with a specific focus on key country support issues.

16. Through subregional training initiatives and country missions, the Bureau reached seven of its eight key countries and focused on additional priority countries. In addition, almost every country in the Region drew upon the Bureau's guidance in responding to Zika's new effects. Fifteen new or revised WHO/PAHO technical guidelines are available to guide Member States' health services. Available materials include standard guidelines, case definitions, and clinical care and case management algorithms that are designed to help clinicians manage, monitor, and understand the Zika virus in pregnant women, patients with neurological syndromes, and neonates with congenital anomalies. Examples of other efforts include: *a*) fostering of improved diagnostics, through the distribution of laboratory reagents to 22 countries for detection of Zika virus by polymerase chain reaction (PCR); *b*) forging of an instrumental partnership with the United States Centers for Disease Control and Prevention (CDC); *c*) coordination of research endeavors, including the organization of the meeting *Towards the Development of a Research Agenda for Characterizing the Zika Virus Outbreak and Its Public Health Implications in the Americas*, held in Washington, D.C., on 1-2 March 2016; and *d*) development of a PAHO portal dedicated to presenting information on the Zika virus that is tailored to a variety of audiences.³

17. The Organization has prioritized the detection of the virus by building relevant national capacities and ensuring that systems are in place to optimize surveillance. It has taken steps to improve the understanding of the distribution, spread, and nature of Zika virus infection and trends in microcephaly and GBS; ensuring uniform case definitions and clinical and data collection protocols; and reinforcing existing disease surveillance systems. Furthermore, important laboratory efforts reinforced and upgraded national capacity, increased access to and use of real-time PCR tests and other diagnostics tools, and established a Zika diagnostic algorithm.

18. Significant efforts were also invested to ensure that effective, consistent, and trustworthy public health risk communication materials were shared with key stakeholders through systematically updated information; news and social media channels were monitored and analyzed to identify audience concerns, knowledge gaps, rumors, and misinformation; and key messages were shared through a range of channels, including public service announcements, partner networks, and media briefings.

³ The Zika virus PAHO portal is available at:
http://www.paho.org/hq/index.php?option=com_content&view=article&id=11585&Itemid=41688&lang=en.

19. Recognizing existing challenges with vector control strategies, the Bureau developed innovative approaches toward protecting pregnant women while also ensuring that new vector control technologies undergo the necessary assessment and evaluation to ensure both efficacy and safety. In addition, the Bureau worked with partners to support assessments of insecticide resistance and pesticide procurement.

20. Taking into consideration the new effects of the Zika virus, health professionals, working with Ministries of Health, were trained to implement new clinical management practices and provide advice and specialized counseling to those affected by Zika virus disease. Support in clinical management has included the provision of treatment, such as immunoglobulin, to manage neurological complications related with Zika virus infection. To that end, the Organization has enhanced its regional stockpile with immunoglobulin, located strategically in Panama and in Barbados for ease of distribution. In addition, the Organization has mediated agreements between neighboring countries, when necessary, as another option to expeditiously make treatment available to severely-ill patients in countries without immunoglobulin available. Lastly, recognizing the important, integrated role of health system response, the Organization worked with Member States to plan for reinforcing family planning and antenatal care services as well as social services for families affected by Zika.

21. While the introduction of ZIKV in the Region is enabling a better understanding of the full spectrum of disease caused by this virus, over 500 million people in the Region are living in areas at risk for transmission of the virus, and its spread could pose a significant burden to public health and to health systems as a whole.

Action Necessary to Improve the Situation

22. As the spread of ZIKV progressively unfolds, the virus is unveiling its multifaceted public health implications and challenges. The response has required coordination at the national, regional, and international levels, spanning across disciplines and sectors. The Organization has likewise reinforced linkage with United Nations agencies (UNICEF, UNFPA, UN Women, among others) to provide a multifaceted technical response and to leverage strengths in mobilizing resources for addressing this public health emergency. The Bureau and Member States must continue to build and strengthen these in-country and external partnerships in order to better address and prepare for the current and anticipated impact of this virus. Similar to the Ebola virus disease outbreak in West Africa, the spread of Zika virus is testing the application of the International Health Regulations and again emphasizing that efficient responses to rapidly-emerging and evolving risks require resilient health systems.

23. More evidence is needed to accurately estimate the current and anticipated impact of this virus on the health of the Region's populations. Existing evidence has allowed for limited assessment and projection of future health, social, and economic repercussions of this virus. Congenital Zika syndrome (CZS) is expected to continue to leave hundreds of infants with long-term developmental disabilities. Patients afflicted with GBS require sustained social support and care from healthcare professionals. Affected households,

especially those living in vulnerable situations, will face long-term financial and emotional challenges. National authorities are encouraged to analyze the needs of their populations and prioritize the responses accordingly to ensure that national and social protection systems are able to support affected households and patients, particularly noting that complications may arise after the initial onset of symptoms.

24. Member States should bear in mind that Zika virus has gained a foothold in the Region, and therefore has a strong potential of becoming endemic in the Region. Similarly, as with the dengue epidemics in the Region over the past 30 years and the establishment of chikungunya virus transmission in all countries and territories in the Region where *Aedes aegypti* is present over a 12-month period, the Zika virus epidemic is offering the opportunity to integrate the surveillance of arboviruses of public health importance in the Region (in particular dengue, chikungunya, Zika, and yellow fever) and to revive the integrated vector control efforts outlined in the proposed PAHO Strategy for Arboviral Disease Prevention and Control (CD55/16).

Action by the Directing Council

25. The Directing Council is invited to take note of this report and provide any recommendations it may have.

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