

B. UPDATE ON THE PANDEMIC (H1N1) 2009

Background

20. The purpose of this document is to examine the pre-pandemic efforts and the response to the new influenza A (H1N1) virus since April 2009.

21. In late April 2009, a novel influenza A virus capable of infecting humans was detected in North America. From its initial focus, the virus spread worldwide, yielding hundreds of thousands of confirmed cases and, as of 30 July 2010, over 18,000 deaths worldwide (with over 8,500 deaths in the Americas). Furthermore, vulnerable populations such as pregnant women appear to have a disproportionately high risk of mortality due to influenza A (H1N1).¹ In 2009, epidemiological reports from countries that provide this information reveal that as many as 28.5% of pandemic (H1N1) deaths among women of reproductive age were in pregnant women (range 4.2–28.5).² Based on the available evidence and on the guidance of the Emergency Committee established under the International Health Regulations (IHR-2005), the Director-General of the World Health Organization (WHO) determined that the scientific criteria for an influenza pandemic had been met and declared the first pandemic of the 21st century.

22. Since 2002, the Pan American Health Organization (PAHO) has provided technical cooperation for country development of National Influenza Pandemic Preparedness Plans (NIPPPs) using an intersectoral planning process. In addition to the development of NIPPPs, the goal was to strengthen countries generic core capacities for surveillance and response, as required by the IHR-2005. For this purpose the Director of PAHO established a Pandemic Preparedness and IHR implementation task force composed by representatives of 11 areas of the Organization.

23. In order to facilitate strengthening countries' capacity to detect influenza viruses with pandemic potential, a Generic Protocol for Influenza Surveillance was developed by PAHO and the U.S. Centers for Disease Control and Prevention. As a complement to an integrated virological and epidemiological surveillance system, the countries' laboratory capacity was enhanced through training in laboratory techniques, provision of reagents and supplies, and purchase of equipment. For most countries in the Region, training focused on antigenic techniques which allowed for the detection of seven respiratory viruses, including influenza. Over the past five years, these efforts contributed to the establishment of five new National Influenza Centers in Central America, as WHO-

¹ A. M. Siston, S. A. Rasmussen, M. A. Honein, A. M. Fry, K. Seib, W. M. Callaghan, ... D. J. Jamieson. Pandemic 2009 Influenza A(H1N1) Virus Illness Among Pregnant Women in the United States. *The Journal of the American Medical Association*, 2010; 303 (15): 1517 DOI: [10.1001/jama.2010.479](https://doi.org/10.1001/jama.2010.479)

² This estimate includes data from the 2009 weekly epidemiological reports of the following countries; Brazil, Canada and Chile.

recognized laboratories with proven capacity to diagnose safely and effectively influenza viruses. Previously, there was only one operating National Influenza Center in Central America.

24. Support was also provided to establish rapid response teams to investigate possible outbreaks. In addition to providing tools for field investigation, training included the implementation of effective strategies for infection control, safe handling of clinical samples, stress management, and crisis and mass fatality management. Capacity building was also provided on risk and outbreak communication to train senior communication staff, those who influence and make communication policies, and those responsible for messages and commentaries to the public and the media.

Update

25. The emergence of a pandemic influenza in April 2009 sparked an overwhelming demand from the countries for direct technical support. The pandemic forced a shift from preparedness activities to mitigation efforts. The threat of a potential pandemic caused by the highly pathogenic avian influenza A H5N1 (“avian flu”) had resulted in the development of NIPPPs in most countries. The Region of the Americas was the only WHO Region that had not been affected by the H5N1 virus, and as such, the pandemic preparedness process had been waning in many countries due to a low perceived risk. Countries responding to the H1N1 pandemic often found that their NIPPPs lacked the operational details necessary for effective operational implementation. While many national plans lacked operational details, the preparedness process over the past few years had served to lay the groundwork for coordination mechanisms which bring together the necessary stakeholders.

26. In response to the initial outbreak, PAHO activated the alert and response mechanisms with the deployment of rapid response teams and the activation of the Emergency Operations Center at (EOC) PAHO Headquarters. The EOC served as a point of contact for communication between technical areas and ministries of health. Through coordination with WHO’s Global Alert and Response Network (GOARN), PAHO deployed intersectoral missions to most countries. Such teams included specialists in surveillance, laboratory diagnosis, infection control, response to emergencies, and risk communications. In the absence of antiviral medications and vaccines, health officials faced anxious communities demanding quick information. Risk communication training in many cases led to more coordinated messages with transparency and improved compliance to public health measures.

27. The capacity of national public health laboratories was stretched to the limit due to the demand for diagnostic purposes instead of prioritizing the recommended public health surveillance goals. Even so, laboratories produced timely, accurate results on the

excess number of samples that were submitted. Most countries were able to identify influenza and other respiratory viruses through antigenic techniques. The identification of the new virus was only possible through more sophisticated, polymerase chain reaction (PCR) which was not previously established in every country in the Region. Within the first four weeks of the start of the pandemic, PAHO coordinated the provision of training, equipment, materials and reagents for this technique. Realtime PCR equipment was provided to Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, El Salvador, Haiti, Honduras, Jamaica, Paraguay, and Uruguay. PAHO also purchased and distributed reagents, additional equipment, and supplies. As a result, every country in Latin America is now able to diagnose the novel H1N1 virus.³

28. Support for epidemiological surveillance included the development of national protocols based on PAHO/WHO guidelines for the enhanced surveillance of acute respiratory infections. Throughout the pandemic an obvious gap and time lag in reporting data existed in the epidemiological information generated by countries. The gains achieved through technical cooperation in implementation of influenza surveillance were not uniformly applied during the pandemic. Now that the pandemic has subsided in the Southern Hemisphere, there is an opportunity to strengthen sentinel surveillance systems in every country.

29. PAHO convened a group of experts for the development of a guideline for clinical management of pandemic (H1N1) 2009 in children and adults, in collaboration with the Pan American Association of Infectology.⁴ Clinical characteristics of the severe cases were monitored in close communication with country specialists, allowing for the early identification of pregnancy and obesity as risk factors for severe forms of the disease. Technical support was provided to Argentina, Bolivia, El Salvador, Honduras, Peru, and Trinidad and Tobago for the revision of national protocols on clinical management and infection control. Through experts in the field, PAHO provided guidance on clinical management of severe cases, pediatric cases, and infection control measures in Belize, Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua, and Paraguay. In conjunction with the Pan American Association of Infectology, a meeting was convened to review lessons learned on clinical management in intensive care units (São Paulo, 26 August 2009). PAHO also collaborated with WHO Headquarters in the development of a global consultation on the management of severe cases of pandemic (H1N1) (Washington, D.C., 14-16 October 2009).

30. Under the framework of the Emergency Plan and through its emergency mechanisms, PAHO was able to coordinate many of the donations and purchases

³ CAREC Member States, except Jamaica, sent suspect pandemic (H1N1) 2009 samples to CAREC for confirmation by *realtime* PCR.

⁴ Available at:
http://new.paho.org/hq/index.php?option=com_docman&task=doc_download&gid=2163&Itemid=

required for Member States' response to the Pandemic of Influenza H1N1. PAHO also ensured that the United Nations Humanitarian Response Depot (UNHRD) regional emergency warehouse in Panama received timely delivery of medical and non-medical items to replenish its stockpiles. Over 50,000 personal protective equipment (PPE) kits and nearly 600,000 treatments of oseltamivir were delivered to countries in the acute phase of the pandemic. It should be noted that PAHO coordinated the repositioning of PPE kits in all countries of the Americas through collaboration with the United States Agency for International Development (USAID) before the start of the pandemic. In preparation for a future wave of influenza A (H1N1) and as part of PAHO's emergency preparedness plan, 300,000 oseltamivir treatments have been stockpiled in the regional warehouse. The PAHO Rapid Response Team (RRT) has also been strengthened through intensive field response training in logistics and crisis management aspects, in keeping with the recently updated field response guidelines.

31. Vaccination campaigns against pandemic influenza (H1N1), have mainly followed the recommendations of the Technical Advisory Group on Immunizations (TAG). As such, they have targeted health care personnel, pregnant women, and people with chronic medical conditions. These at risk population groups were selected in order to reduce severe pandemic influenza morbidity and mortality, and to reduce its impact on health systems. As of 30 July 2010, countries in the Region of the Americas, including the United States, had administered 195,206,708 doses, mainly among the priority groups.

32. Latin American and Caribbean countries planned to vaccinate approximately seven million pregnant women; as of 30 July 2010, approximately 64% of this population has been vaccinated. Only one country has vaccinated 100% of all pregnant women targeted. Currently, vaccine coverage of pregnant women is lowest, compared with that of the other prioritized groups—persons with chronic medical conditions (76.9%) and health care workers (>90%). Countries must intensify their vaccination efforts targeting pregnant women, in coordination with scientific entities and civil society.

33. PAHO produced guidelines and made them available in the influenza portal⁵ in Spanish and English language. A weekly pandemic monitoring report was started describing the evolution of the pandemic in the Region, and continues to date. Also, a weekly immunization bulletin has been published in the influenza portal including surveillance of vaccine adverse events and influenza vaccination coverage. PAHO also established weekly virtual meetings among the ministries of health to share the latest available information and evidence. PAHO made available a secure virtual site for information sharing among of Canada, Mexico, and the United States. In order to

⁵ Available at:
http://new.paho.org/hq/index.php?option=com_content&task=blogcategory&id=805&Itemid=569&lang=en.

disseminate knowledge and information on infection control, PAHO developed a virtual course in clinical management and infection control for healthcare workers, available in the virtual campus for public health.

34. Support was also provided to countries in the development of appropriate messages and the evaluation of the effectiveness of these messages through knowledge, attitudes, and practice studies. Based on informal feedback from countries in the Region, these results helped programs determine whether their message contributed to the public's compliance with social distancing and other public health measures and, when necessary, to make subsequent adaptations.

35. The countries of the Americas suffered significant economic losses from the pandemic. The Government of Mexico, with support from PAHO and the Economic Commission for Latin America and the Caribbean (ECLAC), conducted a study to estimate the economic impact of the first wave of the influenza A (H1N1) pandemic and subsequent control measures. The economic losses caused by the pandemic in Mexico in 2009, were estimated at US\$ 9.1 billion. Of this amount, 96% are losses from production and sale of goods and services; 4% represent health expenditures above expected levels. Mexico's economic losses from the pandemic represent 1% of its gross domestic product for the previous year. This would make the cost of the pandemic higher than that of any disaster in recent history, including the 1985 Mexico City earthquake. A second study to quantify the impact of the second wave of the pandemic in Mexico is currently under doses way.

36. At the regional level, PAHO convened all Member States in September 2009 to analyze the experiences of the countries, share lessons, and examine the challenges facing the Region. With the severe season in the Southern Hemisphere already past, and the Northern Hemisphere influenza season arriving, the countries are focusing on seven topics: coordination and management, epidemiological surveillance, IHR, health services response, risk communications, non-pharmaceutical measures, and vaccination.

37. While still supporting efforts to mitigate the effects of the current pandemic, PAHO will continue strengthening the pandemic response strategy. Technical cooperation needs to continue to promote integrated strategies of capacity building, planning tools, and simulation exercises involving the active participation and ownership of governments at all levels.

38. The risk of the emergence of new epidemic threats, including a new influenza pandemic virus, remains the same as before the pandemic. Pandemic preparedness and the strengthening of core surveillance and response capacities must remain a priority in countries' public health agendas. The influenza pandemic (H1N1) 2009 has served as a

test for global response capacity and this experience must be drawn upon to continue to enhance such capacity.