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INFLUENZA PANDEMIC: PREPARATION IN THE HEMISPHERE: FINAL REPORT

Background

1. As the COVID-19 pandemic has shown, influenza and other respiratory viruses (ORV) have clear epidemic and pandemic potential. In addition to their impact on health, they have far-reaching social and economic consequences that demand whole-of-society preparedness and response.

2. The purpose of this document is to inform the Governing Bodies of the Pan American Health Organization (PAHO) of the achievements made toward implementation of the resolution *Influenza Pandemic: Preparation in the Hemisphere* (Resolution CD44.R8) (1) adopted by the 44th Directing Council in 2003, in consideration of Document CD44/13 (2). Since then, the countries of the Americas have endured two pandemics—the 2009 influenza A(H1N1) pandemic and the ongoing COVID-19 pandemic. Although differing in their impact, both events have highlighted advances in pandemic preparedness in the Region of the Americas, while also exposing critical gaps. The 2009 influenza pandemic caused a shift in the preparedness paradigm, from a strict scheme of predefined pandemic phases and specific actions for each phase to a risk-based approach that provides flexibility for countries and regions (3).

3. Two main documents currently provide a blueprint for pandemic influenza preparedness globally. In May 2011, the World Health Assembly adopted the pandemic influenza preparedness framework (4). Its goals are to ensure the sharing of influenza viruses with human pandemic potential and to increase access by low- and middle-income countries to vaccines and other supplies needed in the response to a pandemic. In March 2019, the World Health Organization (WHO) released the *Global Influenza Strategy 2019-2030* (5). Its four strategic objectives are: to promote research and innovation to address unmet public health needs; to strengthen global influenza surveillance, monitoring, and data utilization; to expand seasonal influenza prevention and control policies and programs; and to strengthen pandemic preparedness and response for influenza. The Strategy identifies five key enablers to guide WHO, countries, and partners in its implementation, the first enabler being a focus on countries.

Update on Progress Achieved

4. Resolution CD44.R8 urged Member States to take actions in four clearly defined areas: expand influenza vaccine coverage, assess the health and socioeconomic impact of seasonal influenza, draw up pandemic influenza preparedness plans, and activate multidisciplinary task forces to develop long-term preparedness strategies. The Resolution also asked the Director of the Pan American Sanitary Bureau (PASB or the Bureau) to strengthen regional influenza surveillance (including specimen shipment), support networks that contribute to the development of influenza preparedness plans, facilitate vaccine production and access, and foster partnerships to act synergistically in influenza preparedness. Progress has been achieved in each area (6).

5. In terms of influenza surveillance, including laboratory workup to confirm or rule out cases, the Region has made important progress and is at the forefront among the six WHO regions. Twenty-five of the 35 Member States regularly report to PAHO/WHO their surveillance data on hospitalized patients with severe acute respiratory infections (SARIs) and 17 Member States regularly report on ambulatory patients with influenza-like illness (ILI). An estimated 80% of the population in Latin America and the Caribbean lives in countries and territories with functional SARI/ILI surveillance. The Region has a laboratory network of 29 WHO-recognized national influenza centers and two global reference laboratories (WHO Collaborating Centers at the United States Centers for Disease Prevention and Control (CDC) in Atlanta, Georgia and at the St. Jude Children's Research Hospital in Memphis, Tennessee) that are integral components of SARI/ILI surveillance systems. In 2014, Member States, PASB, and the CDC established the regional SARI Network for the Americas (SARInet), which coordinates and catalyzes surveillance, prevention, and control activities for influenza and ORV in the Region. This well-established laboratory and surveillance capacity was quickly and effectively leveraged when COVID-19 broke out: by the third week of February 2020, 32 countries and territories in Latin America and the Caribbean had in-country capacity for molecular SARS-CoV-2 testing or access to a subregional laboratory with such capacity. Most countries in the Region have started to integrate COVID-19 into SARI/ILI surveillance.

6. An extensive body of research shows the medical and economic burden of seasonal influenza in Canada and the United States of America. Recent prospective studies done in Bolivia, Chile, Nicaragua, and Peru also demonstrate a significant medical burden in Latin America, and ongoing studies are assessing the economic burden in the Region. As a percentage of the national gross domestic product, the estimated economic burden of seasonal influenza ranges, for instance, from 2% to 5% in Brazil and from 4% to 8% in Argentina.

7. As of 2019, 39 (76%) of the 51 countries and territories in the Region had an influenza vaccination policy. Overall, 300 million seasonal influenza vaccine doses are administered each year (271 per 1,000 population, the highest rate globally). The sustainability of this achievement was evident in April–May 2020 when, amid an incipient COVID-19 pandemic, 16 countries using the seasonal influenza vaccine for the

southern hemisphere immunized over 100 million people, prioritizing older adults, people living with chronic illnesses, and health care workers. As with other vaccines, the PAHO Revolving Fund for Access to Vaccines (the Revolving Fund) has played a critical role in Member States' procurement of both the 2009 pandemic vaccines and seasonal influenza vaccines. Five countries in the Americas produce influenza vaccine or have fill/finish operations, and efforts are ongoing to develop additional capacity for regional vaccine production.

8. Following the 2009 influenza pandemic, the Bureau commissioned an independent evaluation to examine the overall response to the crisis and the capacity to deliver emergency assistance (7). The evaluation team visited nine countries and reached three main conclusions. First, national authorities and partners considered PASB's efforts to have been effective in promoting the development of national pandemic preparedness plans as a step towards increasing national response capacity. Second, the epidemiological and laboratory expertise that PASB mobilized was timely and helpful. Third, PASB's response in terms of emergency management, logistics, and distribution of antivirals and personal protective equipment was rapid and appreciated.

9. In a survey carried out by PASB in June 2019, 32 (91%) of the 35 Member States reported having a pandemic influenza preparedness plan, and 20 reported having updated their plans at least once since 2006. Twenty Member States reported that such a plan was part of a national multi-hazard preparedness plan. An analysis of pandemic readiness as compared with the national capacities reported through the Electronic State Party Self-Assessment Annual Reporting Tool (8) suggested strengths in the areas of surveillance, investigation, and situation assessment, but found weaknesses in other readiness dimensions (emergency preparation; health services and clinical management; disease prevention in the community; maintenance and recovery of essential services; preparedness plan evaluation, testing, and revision).

10. While progress has been achieved, opportunities for improvement remain in all areas of preparedness (6). Strengthening capacity in these areas would make an important difference, especially in emergency situations, such as during a pandemic. The Region should continue its efforts to strengthen surveillance and impact evaluations. Best practices for the periodic sharing and joint analysis of influenza surveillance data between the public and animal health sectors should be established. Existing data on disease burden, seasonality patterns, and vaccination effectiveness should be used to inform decision-making at the country level and to allocate programmatic resources. Regional and country strategic plans based on the Global Influenza Strategy 2019-2030 should be prepared, with specific targets for 2030. The experience in developing the supply chain and stockpiling personal protection equipment, medical devices, vaccines, and drugs during the COVID-19 pandemic should be systematized. Finally, regional partnerships, such as the regional networks for syndromic surveillance and vaccine effectiveness evaluation (SARInet and the network for the evaluation of influenza vaccine effectiveness in Latin America and the Caribbean, REVELAC-i), should continue to play a critical role in continuous learning by sharing experiences and promoting the standardization of best practices among countries.

Lessons Learned

11. The establishment of SARI-net, a globally renowned regional surveillance and laboratory network, has had a catalytic effect in building national capacity for surveillance and laboratory diagnosis of influenza and ORV. These capacities were an unquestionable strength for the Region when the COVID-19 pandemic broke out. The Region has also been able to capitalize on strong national immunization programs, the regional initiative Vaccination Week of the Americas, and PAHO's Revolving Fund to spur the introduction of seasonal influenza vaccines. As in other emergencies, the Revolving Fund was a critical mechanism in 2009-2010 for facilitating equitable access to pandemic influenza vaccines. Several countries and territories have gained experience in the formulation of national multi-hazard preparedness plans. The multi-hazard approach offers the opportunity to extend pandemic planning from influenza to other epidemic-prone respiratory and emerging pathogens.

Action Necessary to Improve the Situation

12. Considering the results and challenges described in this report, the following actions are presented for the consideration of Member States:

- a) Although the current focus is necessarily on the COVID-19 response, influenza viruses remain the likeliest pandemic pathogens and continue to cause seasonal epidemics that entail a significant health and economic burden each year. Surveillance data show that, since March 2020, influenza transmission has been at historical lows and even absent in temperate areas of the Region. Countries and territories might experience severe influenza seasons once COVID-19-related public health measures and social distancing are relaxed and international travel resumes. Member States must maintain influenza and ORV surveillance (for both hospitalized and ambulatory cases) and continue working to integrate COVID-19 into ongoing surveillance of respiratory viruses.
- b) Despite the decreased influenza transmission during May, June and July 2021, and consequently the paucity of influenza positive specimens, the monitoring of influenza virus evolution and the selection of candidate vaccine viruses for the regular updating of seasonal influenza vaccines need to be maintained. Member States should continue to share influenza virus sequences data and influenza positive specimens that are representative for genetic and antigenic characterization through their national influenza centers/laboratories to WHO Collaborating Centers in a timely fashion for the biannual global analyses.
- c) National immunization programs and seasonal influenza vaccination should be maintained and continuously strengthened, as they are investments that pay important dividends when emergencies occur. Moreover, and equally important, they reduce the seasonal influenza burden.

- d) At the same time, the recognition that pathogens other than influenza viruses can cause catastrophic pandemics calls for multi-hazard preparedness planning and for robust action to ensure reliable access to vaccines and other essential supplies in case of emergencies.

Action by the Directing Council

13. The Directing Council is invited to take note of this report and provide any comments it deems pertinent.

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