

18.004

International response to the H1N1 pandemic

A.S. Monto

University of Michigan School of Public Health, Ann Arbor, MI, USA

Heightened global concern about an influenza pandemic can be dated back to 2003, when the SARS outbreak was followed by the spread of highly pathogenic A (H5N1) infections in poultry with occasional spread to humans. These illnesses had a high case fatality ratio, which increased the worry of the potential effect of a pandemic caused by this subtype. The WHO developed a variety of tools for countries to use and made preparations for vaccine stockpiling. Plans were developed to contain any focal outbreak with antivirals. Pandemic phases were established to define extent of adaptation of an animal virus to humans and subsequent spread. Severity of the pandemic was not quantified in a scale. Fortunately, modification of the phases had been put in place well before transmission of pandemic H1N1 virus was recognized in April, 2009.

The H1N1 pandemic has been very different from that anticipated based on the virulence of the H5N1 virus. Paradoxically, this was initially a problem, since some countries' plans were geared only to severe pandemics. Some borders were effectively closed for a time, even though this was against the pandemic IHR recommendation. There was also confusion between containment and mitigation, in part because of the rapidity of spread of the virus. Overall, preparations for a more severe pandemic had positive results. Many developed countries had antiviral stockpiles, which they used in different ways. Development of a monovalent pandemic vaccine moved ahead rapidly. Not only were adjuvanted and nonadjuvanted inactivated vaccines used but live attenuated vaccines were employed as well. Technology transfer will make these approaches available in more countries. The need for only one inoculation of vaccine will make more vaccine available to risk or priority groups in developing countries. Equity issues clearly need to be addressed as we go forward. The time periods between pandemics have been irregular, and the next might not wait 40 years to occur.

doi:10.1016/j.ijid.2010.02.1534

Malaria in the Americas (Invited Presentation)

19.001

Epidemiology and Intensity of Transmission

K. Carter

PAHO, Washington, DC, USA

Malaria transmission was eliminated from a number of territories in the Americas but still occurs in 21 countries in the Region. The presentation focuses on past and present strategies and goals to combat malaria in the Region, trends, the present situation and challenges as well as on financial resource mobilization including that for operational research. After the Global Malaria Eradication Strategy was abandoned, it was replaced by the Global Malaria Control

Strategy in 1992 and the strengthening of efforts to reduce the global burden of the disease was catalyzed by the Roll Back Malaria Initiative (RBM) which was launched in 1998. The goal of the RBM initiative was to reduce the burden of disease by 50% by 2010. The United Nations Millennium Development Goals were launched in 2000 with Goal 6 calling 'to halt and begin to reverse the incidence of malaria by 2015'. At the World Health Assembly in 2005, Resolution WHA58.2 called for an additional 25% reduction from the RBM target; with the goal of reducing the burden between 2000 and 2015 by 75%. The burden of malaria reported in the Americas by Member States decreased from over one million cases and over three hundred deaths in 2000 to just under 573 thousand cases representing a 52% reduction in cases and 57% reduction in malaria related deaths between 2000 and 2008.

Plasmodium vivax is the leading cause of malaria in the Region, accounting for approximately 75% of all cases with *P. falciparum* being the cause of almost all other cases and a small number due to *P. malariae*. In the countries sharing the Amazon rain forest, similar proportions are observed while in Mexico, Central America, Argentina and Paraguay *P. vivax* accounts for over 90% of the cases. In Hispaniola, the only endemic island in the Caribbean shared by the Dominican Republic and Haiti; almost 100% of the cases are due to *P. falciparum*. There has been a reduction in the overall malaria incidence in recent years but the disease still constitutes a public health problem in the region with a disparity in outcome of efforts in different countries related to a number of factors including variations in ecological conditions, diagnostic and treatment coverage, weaknesses in health systems and technical capacity issues. Operational research is important for evidenced based decision making.

The greater part of the financial resources for national malaria efforts to combat the disease is provided by national governments but there has also been additional resource mobilization in the Region including that of the Amazon Network for Monitoring Antimalarial Drug Resistance with funding available through the United States Agency for International Development's (USAID) Amazon Malaria Initiative (AMI). Additionally, individual country projects in Bolivia, Guatemala, Guyana, Haiti, Honduras, Nicaragua and Suriname have been financed by the Global Fund to combat HIV/AIDS, Tuberculosis and Malaria (GFATM) as has been a multi-country Andean proposal by the Organismo Andino de Salud (ORAS) to the GFATM for Colombia, Ecuador, Peru and Venezuela. Towards the end of 2009, proposals by Brazil, Colombia, the Dominican Republic and Ecuador were approved by the GFATM. The Global Environment Facility / UN Environmental Program also supported a project for the prevention of the reintroduction of DDT use in malaria vector control in Mexico and Central America.

With reduction of the malaria burden in different geographical regions worldwide, there have been calls for renewed efforts to eliminate malaria. The presentation includes suggestions for lessons learnt from the eradication era to be borne in mind.

doi:10.1016/j.ijid.2010.02.1535