

I. Executive Summary

On August 9, 2009, the White House charged the Department of Health and Human Services (HHS) in coordination with the Office of the Director for National Intelligence (ODNI) and the Department of State (DoS) to study characteristics and impact of the 2009 Influenza A (H1N1) (refer to as 2009 H1N1) outbreak in the Southern Hemisphere. This assessment explores the characteristics and impact of the disease in select southern hemisphere countries that have been experiencing the 2009 H1N1 outbreak in May to August, coincidentally with their normal influenza season. Countries assessed include Argentina, Australia, Chile, New Zealand, and Uruguay as they more closely resemble the U.S. with respect to demographics and economic development.

The information in this report comes mainly from reports of the Ministries of Health of the selected countries, press releases, government publications, and U.S. embassies abroad covering the period from May 1 to August 24, 2009. From this assessment, it was possible to make the following general observations:

All countries report that after mid July, disease activity in most parts of the country decreased. This indicates that the duration of the current influenza season in the Southern Hemisphere, in which the 2009 H1N1 virus is the predominate strain, may be similar in length to an average seasonal influenza season.

Virologic data indicates that the H1N1 virus strains currently circulating in the Southern Hemisphere are similar to those detected in the U.S. Data suggest that the 2009 H1N1 virus remains antigenically stable. Thus, the H1N1 virus strain selected by the U.S. for vaccine manufacturing should closely match the currently circulating 2009 H1N1 strains. Moreover, almost all H1N1 viruses tested remain sensitive to neuraminidase inhibitors (oseltamivir and zanamivir). In all five countries, antiviral drugs were used to treat individuals with confirmed and severe cases, for individuals suspected of having the virus, and for individuals with risk factors for complications who were in contact with people having or suspected of having the virus. However, comprehensive studies of the effectiveness of antiviral treatment to reduce disease severity or mortality in infected patients are not currently available.

The most at-risk populations in the Southern Hemisphere are similar to those observed in the U.S. Similar to situation in the U.S. this past spring, H1N1 infections generally caused mild disease. H1N1 infections predominantly occurred in school-aged children and adults under 65 years of age. Only a small proportion of cases were fatal. Pregnant women or individuals with other existing conditions made them at higher risk for influenza complications. Australia and New Zealand reported higher rates of hospitalization of cases in their indigenous population (5 and 3 times higher, respectively) when compared to cases in the non-indigenous population.

Commonly used community mitigation measures included school closures, cancellation of mass gatherings, isolation and quarantine, and other social distancing measures. All countries inconsistently implemented some form of community mitigation measures including temporary and local school closures, cancellation of mass gatherings, isolation or quarantine of sick or exposed individuals, and other social distancing measures as well as border screening and temporary flight cancellations.

Health care systems experienced stress, but it was generally geographically isolated and relatively short lived. All five countries reported early regional surges in hospital, emergency department and outpatient visits. Some countries reported transient hospital bed, equipment or medication shortages.

Available data suggest that all countries experienced some time-limited and/or geographically-isolated socio/economic effects and a temporary decrease in tourism. Although it is too early to determine whether the 2009 H1N1 pandemic has caused a long-term economic impact in Australia, Argentina, Chile, New Zealand, and Uruguay, some of these countries reported limited social and economic effects from implementation of social distancing measures and decreased tourism.

In considering the implications of the Southern Hemisphere experience for the U.S. this coming fall, readers should consider that all the countries profiled differ from the U.S. in terms of their public health and surveillance systems, the organization of their health care systems, their customs and traditions, and care-seeking behavior. In addition, these countries did not have a 2009 H1N1 outbreak prior to enter in their normal influenza season, as in Mexico and the U.S.. How and whether 2009 H1N1 virus will behave in the Southern Hemisphere, after their normal flu season ends, remains to be seen.