

PANDEMIC PULSE

Expert Analysis of the Current Pandemic Influenza Threat



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Global Medical Services

A Report from the Frontlines

A Critical Care Forum was recently held in Toronto this October with delegates from Mexico, Australia, New Zealand, and Canada in attendance, sharing their experiences from the frontlines of working in critical care and the impact of the novel H1N1 influenza virus.



Delegates agreed that the number of people falling ill with the H1N1 virus far exceeds that of the typical seasonal flu, while the individual degree of illness may, in fact, not be worse than the seasonal flu. Also, again much like seasonal flu, the average time from symptom onset to presentation is consistently in the 4-6 day range, while people requiring ICU admissions seem to require this care within 1 day of hospital admission.

However, a unique feature of H1N1 is the high attack rate in the younger population (30-40 years of age). This has meant that more people in this middle-age group are falling ill and more deaths have been reported in this age range. This is not because of the degree of illness, but specifically to do with the greater number of people falling sick.

Looking at the time from symptom onset to peak morbidity and mortality curves, it appears that people are not dying of influenza per se, but from complications such as bacterial infection, ARDS/ALI, and multi-organ system failure. This is why there has been a perceived increase risk in people with underlying conditions, immunosuppression, and pregnant women.

A recent poll of Canadians suggested that nearly half of the population did not want an H1N1 vaccination due to poor dissemination of information. Overall, the delegates at the Critical Care Forum concluded that following public health measures, including vaccination, cough etiquette, hand hygiene, and pandemic planning, are important public health measures to take and the greatest tools we have in mitigating the impact of H1N1.

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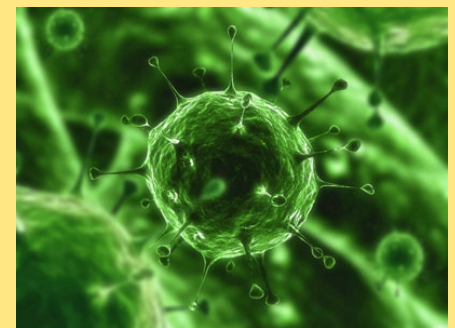
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Monthly Feature

Pandemic Pulse

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<http://h1n1flu2009.blogspot.com/>



H1N1 versus seasonal flu

Canadian Press – 15 November, 2009

<http://www.google.com/hostednews/canadianpress/article/ALeqM5iyqqXAU5kW1MBBcoSaz2nHQYREog>

Canadians have been repeatedly told seasonal flu kills between 4,000 to 8,000 Canadians and between 250,000 and 500,000 people worldwide each year. Yet as of October, 2009, seven months into this outbreak, H1N1 had killed 161 Canadians and an estimated 6,260 people around the globe. Critics of the worldwide pandemic response have doubted the virulence of the H1N1 virus and the authenticity of the H1N1 pandemic based upon similar figures.

According to Professor Ellenberg at the University of Wisconsin, comparing the number of confirmed deaths from seasonal flu to the number of confirmed deaths from H1N1 is mathematically sound. But what is currently prevalent is a comparison of the number of certified deaths on one side to an estimate of the full number of deaths on the other side. While the H1N1 figures are from infected persons who have been hospitalized and then died in hospital, the seasonal flu figures are mathematical estimates of all deaths in which influenza may have had a hand.



A 2007 study of looking at 10 years worth of influenza deaths in Canada reported that deaths directly attributed to flu made up only eight per cent of all influenza-related deaths in a given year. In most cases, influenza contributes to or hastens death. A bout of flu can trigger a heart attack in someone with heart disease. Other times flu weakens the immune system, making the body susceptible to pneumonia. The cause of death may be bacterial pneumonia, but the pneumonia wouldn't have occurred if the person hadn't caught the flu. Over the years, public health researchers have worked out ways to calculate the portion of those extra deaths for which flu is to blame, thus greatly increasing the figures for seasonal flu. In the case of the H1N1 pandemic, infection and mortality rates are calculated solely when H1N1 can be directly attributed to the death.

Dr. Jeff Kwong, of Toronto's Institute for Clinical Evaluative Sciences, estimates that it may be 2011 or so before Canadian researchers can come up with a good estimate of what has happened in 2009 with H1N1. The U.S. Centers for Disease Control has nearly quadrupled their estimate of how many Americans have died from the virus, to reduce statistical differences with estimates of seasonal flu deaths.



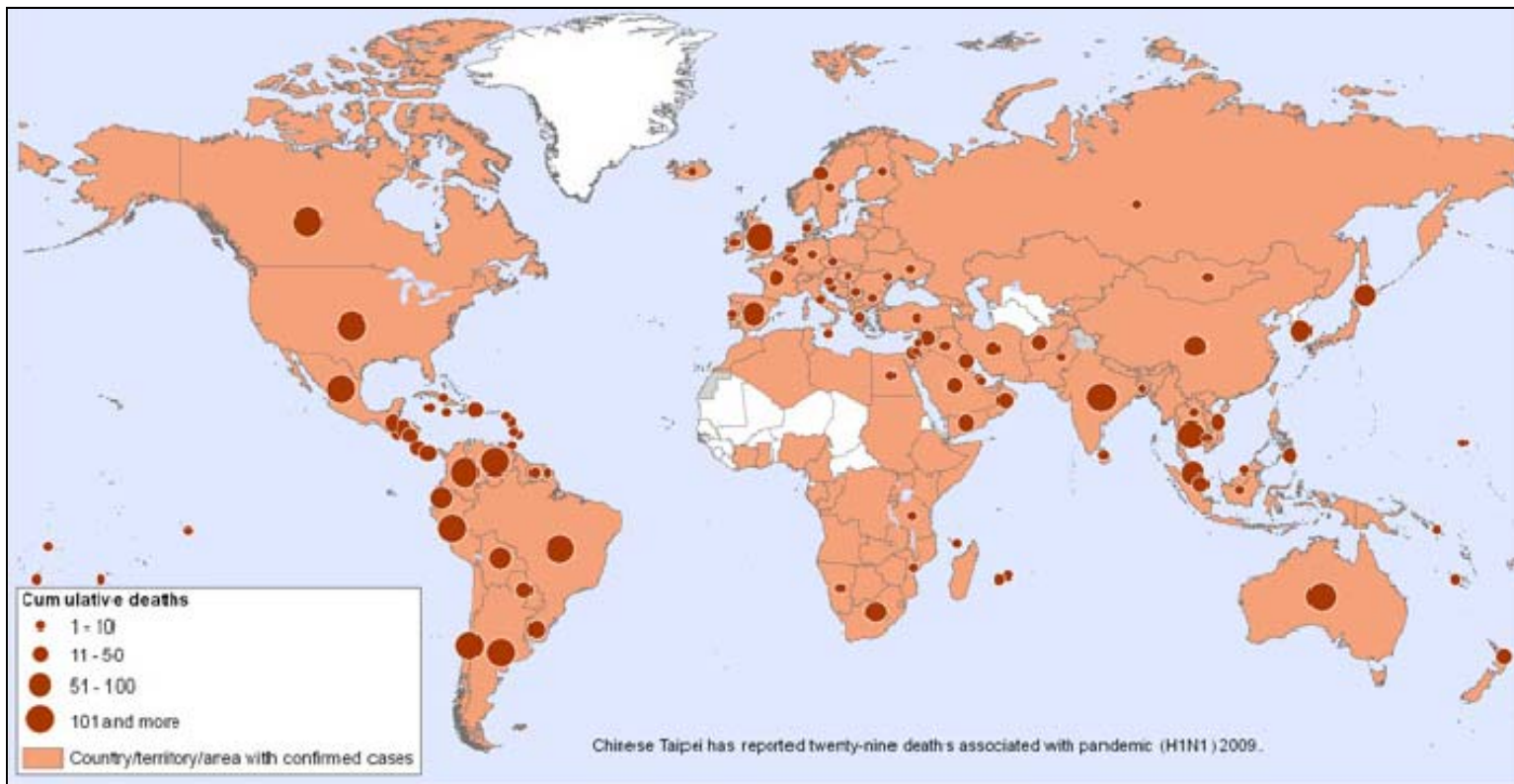
International News

Worldwide pandemic update

World Health Organization – 20 November 2009

http://www.who.int/csr/don/2009_11_20a/en/index.html

In temperate regions of the northern hemisphere, the winter influenza season continues to intensify across parts of North America and much of Europe. However, there are early signs of a peak in disease activity in Western Europe. Further east, Serbia, Norway, Lithuania, Bulgaria and Ukraine have reported sharp increases in flu-like symptoms. In Central and Western Asia, increasing diseases activity and pandemic influenza virus isolations continues to be reported in several countries. In East Asia, influenza transmission remains active. In the tropical areas of Central and South America, most countries continue to report declining influenza activity. With the exception of Sri Lanka, flu activity is declining in tropical South and Southeast Asia.



H1N1 mortality rates rise with age

Canadian Press – 11 November 2009

<http://www.google.com/hostednews/canadianpress/article/ALeqM5ibXcJzj-VJDQGfN1qgbZwjisYVjQ>

A new study of pandemic H1N1 cases in Mexico, by the Mexican Institute for Social Security, and colleagues, found the death rate was above 10% in those aged 70 or older, 5.7% among those aged 60 to 69, 4.5% among those 50 to 59, 2.7% for those 40 to 49, 2% for those 30 to 39 years and 1.6% for infants under the age of one. In terms of infection rates, those aged 10 to 39 comprised 56% of all H1N1 cases.

H1N1 mutations cause fatalities in Norway

Xinhua – 25 November 2009

http://news.xinhuanet.com/english/2009-11/25/content_12533454.htm

Similar H1N1 mutations have been found in the U.S., China, Brazil, Ukraine, Japan, and recently in Norway. The WHO is examining the link between the mutation and severity of infection after the Norwegian cases were detected in fatal infections. The mutation is still susceptible to antivirals and the pandemic vaccine does confer protection, a situation that may change with further mutations. The WHO has said that the cases are sporadic and are not spreading yet.

National and Vaccine News

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- Critical Interventions
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No. of H1N1 outbreaks, doctor visits falling in Canada, U.S.

CTV – 21 November, 2009

http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/20091121/H1N1_drop_091121/20091121?hub=TopStoriesV2

The Public Health Agency of Canada says that the number of outbreaks at schools, the prevalence of flu-related doctor visits and flu cases across Canada has declined, suggesting that the pandemic has peaked. In Ottawa, the number of flu cases fell far enough for local health authorities to close all but one of the city's flu assessment clinics. In Vancouver, a flu clinic at B.C. Children's hospital also shut down as the number of patients eased. South of the border, fewer Americans are visiting their doctor because of H1N1, and absentee rates at U.S. schools have returned to normal as well.

Provincial H1N1 and vaccine update

Public Health of Canada – 26 November, 2009

<http://www.phac-aspc.gc.ca/alert-alerte/h1n1/vacc/dist-eng.php>

According to the Public Health Agency of Canada, there have been 6,992 hospitalizations in Canada due to H1N1, 1110 ICU admissions and 309 deaths. The median age for hospitalizations is 26 while that for ICU admission is 45. All Canadian Provinces have extended H1N1 vaccine eligibility to the general population and have started mass immunization clinics to facilitate this. So far, PHAC, in conjunction with GlaxoSmithKline has shipped 10,958,000 doses of the adjuvanted vaccine and 1,204,200 doses of the unadjuvanted vaccine to provinces to be distributed to clinics. Another 3 million doses are expected by the end of November.

Need for 2nd Vaccine Manufacturer

Globe and Mail – 6 November, 2009

<http://www.theglobeandmail.com/life/health/h1n1-swine-flu/canada-needs-two-vaccine-suppliers-ottawa-admits/article1353348/>

While the Harper government has applauded GlaxoSmithKline Inc. for making more than 11 million doses so far, federal officials have commented that Canada needs more than one vaccine manufacturer to deal with future flu pandemics and to avoid production delays that have affected the fight against the H1N1 virus. Had that been the case this time, one manufacturer could have worked on producing adjuvanted vaccine, while the other one could have produced non-adjuvanted vaccines for pregnant women. Initially, officials feared a global flu outbreak would prompt countries with vaccine plants to hoard vaccine supplies.

