

## **Lessons from the 1918 Spanish Flu** *Part II*

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### **INTRODUCTION**

This paper is a continuation of yesterday's study, "Lessons from the 1918 Spanish Flu." Part I introduced the disease, and next discussed lessons from the pandemic, and what they might mean for a future pandemic. This paper focuses on the possible impacts of a pandemic—mortality, and economic and social impacts—and responsibility—global, public, and organizational accountability.

#### **Large Numbers of Death Will Occur** (WHO 2006 c)

In 1918, upwards of 50 million people succumbed to Spanish flu in a global population of two billion people--and this is a conservative estimate, as it is believed that 25 million may have died in India alone. Many researchers now estimate the number of dead at 100 million. Spanish flu killed more people than the Black Death of the Middle Ages, more people than all the fighting of the First World War, more people than AIDS has to date, and, remarkably, Spanish flu killed in a period of just one year.

In the United States, Spanish flu killed more than half a million people--19,000 in New York City alone. More than 500,000 people sickened in the Province of Quebec and 14,000 died, and in the City of Toronto, 1,200 died in just three weeks.

Spanish flu killed young healthy people, those in the prime of life: healthy adults, 20 to 40 years of age. For example, Spanish flu killed Harry Elionsky, America's strongest swimmer, who once swam 90 miles non-stop.

As a result of the increased deaths, coffins and undertakers were in short supply. In Rio de Janeiro, one householder pleaded with the fire brigade, conscripted as undertakers, to take his dead brother. They refused, adamant that there was no room on the death cart. The desperate brother continued to plead, as the body was already five days old. The firemen relented; they would take the brother, but in return they would leave a stranger who had died more recently.

In Montreal, the demand for transporting coffins was so great that trolley cars were converted to hearses, which could carry ten coffins at a time. In Toronto, funerals were allowed for the first time on Sunday, and families were asked to dig graves for relatives, since there were too few undertakers to bury the dead.

The World Health Organization estimates 2 million to 7.4 million deaths globally for a pandemic—a conservative estimate based on the mild 1957 influenza pandemic. Estimates based on 1918's experience are 50 million deaths worldwide (WHO 2006 c).

Extrapolations from past influenza pandemics are problematic for a number of reasons, including the fact that the world in 2006 is a markedly different place from that of 1918. Mortality extrapolations from past pandemics are also difficult because of confounding factors: for example, greatly improved nutrition and health care and an increase in international travel. Today the world is much more vulnerable to the eruption and spread of infectious disease than in 1918, as people tour increasingly, travel more rapidly, and visit many more places than ever before (Duncan 2003).

Just as determining the death toll of a future influenza epidemic is impossible, predicting the specific characteristics of a future pandemic virus is equally difficult. Nobody can predict how pathogenic a new virus will be, and which age groups it will affect; today most cases of H5N1 have occurred in previously healthy children and young adults (WHO 2006 c).

Regardless of the numbers of dead, protocols must be developed to prepare for excess mortality and to handle bodies in a safe and respectful manner (Duncan 2005)

### **Economic and Social Disruption Will Be Great** (WHO 2006 c)

In 1918, the losses to business were staggering throughout the world.

Merchants suffered because customers were too ill to shop, staff were absent with flu, and transportation was halted; in Montreal, 10,000 railway workers were off the job with flu. Pool halls, restaurants, and theaters all lost heavily, but it was the insurance industry which was perhaps the hardest hit; in London, England, the Prudential Assurance Company paid out two times as much in flu claims as it did in war claims (Duncan 2003 and 2006 a).

Today, public health authorities predict that up to 60 percent of the work force will be too ill or frightened to leave home and will not attend work. Employee absenteeism could ground planes, and close bars, daycares, grocery stores, schools, and other public places.

Global economic activity could weaken, supply chains (including those distributing life-saving drugs) could fail, raw material prices could decrease, risk aversion could intensify, and interest rates could fall. SARS cost the Canadian Public Health System \$945 million, and conservatively cost the economy \$4 billion. On the other hand, health care, home entertainment, internet commerce, and telecommunications companies could benefit (Duncan 2006 a; International Monetary Fund 2006; The World Bank 2006; UN System Coordinator et al., 2006; and WHO 2006 c).

## **Global Responsibility**

Today experts agree that a pandemic is inevitable and possibly imminent. The warning signals: a quickly mutating virus spreading across the world, despite the fact that over 150 million birds have been culled; a virus which shares similarities with the deadly 1918 Spanish flu virus; and a virus which, like 1918, attacks previously healthy children and young adults.

The World Health Organization uses a series of six phases for a pandemic alert system. The world is presently in phase three--meaning a new influenza virus subtype is causing disease in humans, but is not yet spreading efficiently among humans (WHO 2005 b and 2006 c).

Can a pandemic be averted? The answer is unknown. The best way to prevent a pandemic would be to eliminate the influenza virus from birds, but it is unlikely that this could be achieved in the near future. Another possibility would be to use antiviral medications to treat early cases, and thus reduce the risk that a fully transmissible virus would emerge. Unfortunately, this strategy has never been tested (WHO 2006 a and c).

## **Public and Organizational Responsibility**

During a pandemic, government will need to protect civil society through measures, such as restrictions of mass gatherings, school closures, travel restrictions, voluntary home isolation of cases, and voluntary quarantine (Duncan 2005).

Government must also garner the support of the business community and ask that it be knowledgeable about the risks of pandemic flu, and that it be prepared for the economic and social impacts of a global epidemic (Duncan 2006 a; and PandemicFlu.gov 2006 a).

Specifically, individual businesses: should develop a pandemic team to liaise with external organizations; should develop an emergency budget; and should develop pandemic scenarios--whether or not a pandemic starts here in North America or overseas, and whether or not a cluster of cases occurs in one's community or organization. And every level of government and business must develop an over-arching strategy—to reduce cases, hospitalizations, and deaths, and economic and social impacts.

In preparing, governments and organizations face legal and ethical challenges that will affect both an individual's chance of survival (e.g. allocation of scarce resources, such as antivirals and vaccines) and freedoms (e.g. travel restrictions). Legal considerations must therefore include federal, provincial/state, and territorial legislation, including contract, employment, patent law, insurance, and labor issues.

Consequently, *do you know your legal obligations to your employees in the face of a pandemic, including contract, employment, patent law, and insurance and labor issues, and what is required in federal and provincial/state legislation?*

*Have you taken into account ethical principles and values to address moral concerns (e.g. who receives antiviral drugs), identified measures that can diminish the impacts of a pandemic on your employees, and addressed the benefits and costs of these measures?*

The need for a widely accepted, pre-pandemic ethics approach was highlighted during the 2003 SARS crisis, when difficult ethical choices rapidly arose. *In the future, whose values should prevail? How should individual freedoms be balanced against the common good, or economic losses against the halting of disease?*

A sound ethical framework will help guide organizational policies concerning such issues as benefits and compensation packages, decisions to close a site, evacuation of employees working in or near an affected area, financial assistance, flexible worksite and work hours, preventive medical opportunities, etc.

Finally, organizations must engage employees regarding ethical choices in order that they understand the decisions that will have to be made during a pandemic. Open, transparent communication between employer and employee allows for greater trust, decreases fears of the unknown, and increases cooperation and acceptance of difficult decisions (Duncan b. and forthcoming).

Every business also needs a plan to maintain functionality. *What is the anticipated demand for goods and services? What are core activities, key employees, and necessary supplies? What insurance and security measures are necessary?*

Consequently, *what centralized, coordinated services, might be available to you, your employees, and your community? Have you undertaken risk analysis and a review of business continuity plans? Do you know how delivery, quarantine, trade, and travel restrictions could impact your business?*

Business should consider modeling studies regarding the economic impacts of an influenza pandemic based on attack rates and patterns of attack, and should aim to improve projected effects. The Centers for Disease Control and Prevention (CDC) publishes free software on its website (FluAid and FluSurge) for this purpose (Duncan 2006 a).

*Have you developed pandemic-specific continuity procedures? How will you communicate with government, staff, suppliers, and customers? How will you protect employee health and well being--personal hygiene, protection and workplace cleanliness, social distancing, policies for sick employees and contact management, travel restrictions?*

*Do you know how to recognize a pandemic, and the international, national and regional responsibilities that will come into play? How will you manage your return to business as usual?*

## **Individual Responsibility**

Individual citizens can lessen the impacts on their families through the following measures. Families must consider storing food and water, as shops could lack supplies, or restrictions and sickness could prevent travel. Families should review public health measures to reduce the risk of contracting or spreading influenza during a pandemic.

Individuals can help reduce, but not eliminate, the risk of catching or spreading influenza during a pandemic by the following measures: avoiding non-essential travel and large crowds whenever possible; cleaning hard surfaces (e.g. door handles, kitchen worktops) frequently; maintaining good basic hygiene (e.g. washing hands to reduce the spread of the virus from your hands to your face, or to other people); using a tissue when coughing or sneezing; disposing of dirty tissues carefully and promptly; and making sure children follow advice.

Families might also consider recording health information for each member (e.g. allergies, blood type, current medications/dosages, emergency contacts, family physicians, past/current medical conditions, etc.) in case of emergency (PandemicFlu.gov 2006 c).

## **SUMMARY**

Extraordinary times require extraordinary leaders. If the unthinkable happens, political, business, and civic leaders must be able to rise to the largely unprecedented challenges. The leadership must be credible, competent, and prepared, if it has to step into the unknown, rally the community, and bring genuine comfort to people.

After a pandemic, millions will be affected in profound ways—from depression, due to the loss of friends and relatives, to financial loss, resulting from disruption to business.

Corporations, governments, and society will have to ensure financial, psychological and social support for affected families and companies and the rebuilding of society.

## **REFERENCES**

- Duncan, K. 2003. *Hunting the 1918 Flu: One Scientist's Search for a Killer Virus*. University of Toronto Press: Toronto.
- Duncan, K. 2005. Lesson from the 'Spanish Lady'. *University of Toronto Bulletin* November 8, 2005.
- Duncan, K. 2006 a. Business may take a big hit. *Toronto Star*.  
<http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Ar>

- [ticle\\_PrintFriendly&c=Article&cid=1138661411815&call\\_pageid=971358637177.02/06/06.](#)
- Duncan, K. 2006 b. Forewarned is forearmed. The 2006 Conference Board of Canada CSR Conference. Toronto, Canada, May 17, 2006.
- Duncan, K. Forthcoming. Pandemic flu: current threat and call for ethics. *Management Ethics*.
- International Monetary Fund. 2006. The global and economic impact of an avian flu pandemic and the role of IMF.  
<http://www.imf.org/external/pubs/ft/afp/2006/eng/022806.pdf>. 02/06/06.
- PandemicFlu.gov. 2006 a. Business and industry planning.  
<http://www.pandemicflu.gov/plan/tab4.html>. 02/06/06.
- PandemicFlu.gov. 2006 b. Community planning.  
<http://www.pandemicflu.gov/plan/tab7.html>. 02/06/06.
- PandemicFlu.gov. 2006 c. Individual and family planning.  
<http://www.pandemicflu.gov/plan/tab3.html>. 02/06/06.
- The World Bank. 2006. Economic impact of avian flu.  
<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/EASTASIAPACIFICEXT/EXTEAPREGTOPHEANUT/0,,contentMDK:20713527~pagePK:34004173~piPK:34003707~theSitePK:503048,00.html>. 02/06/06.
- Un System Coordinator and World Bank. 2006. Responses to avian and human influenza threats; progress, analysis, and recommendations January-June 2006.  
[http://siteresources.worldbank.org/INTTOPAVIFLU/Resources/UNSIC\\_Report\\_Vienna\\_Final.pdf](http://siteresources.worldbank.org/INTTOPAVIFLU/Resources/UNSIC_Report_Vienna_Final.pdf). 02/06/06.
- World Health Organization. 2005 a. Avian influenza frequently asked questions.  
[http://www.who.int/csr/disease/avian\\_influenza/avian\\_faqs/en/index.html#present](http://www.who.int/csr/disease/avian_influenza/avian_faqs/en/index.html#present) 31/10/05.
- WHO. 2005 b. Current WHO phase of pandemic alert.  
[http://www.who.int/csr/disease/avian\\_influenza/phase/en/index.html](http://www.who.int/csr/disease/avian_influenza/phase/en/index.html). 30/05/06.
- WHO. 2006 a. Avian influenza ('bird flu)—Fact sheet.  
[http://www.who.int/mediacentre/factsheets/avian\\_influenza/en/index.html](http://www.who.int/mediacentre/factsheets/avian_influenza/en/index.html). 30/05/06.
- WHO. 2006 b. Cumulative number of confirmed human cases of avian influenza A/(H5N1) reported to WHO.

[http://www.who.int/csr/disease/avian\\_influenza/country/cases\\_table\\_2006\\_05\\_29/en/index.html](http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_05_29/en/index.html). 02/06/06.

WHO. 2006 c. Ten things you need to know about bird flu.

<http://www.who.int/csr/disease/influenza/pandemic10things/en/index.html>.  
30/05/06.

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