

Mitigating the Economic Impact and Maintaining Air Service Pre- and Post-Pandemic

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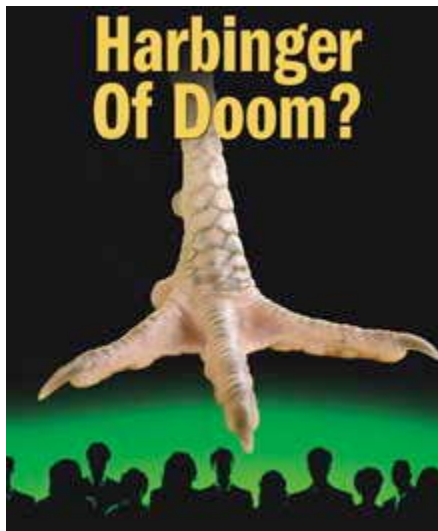
Avian Influenza

- Animal Disease?



Avian Influenza

- Or the Next Human Pandemic?



Pandemic Planning: Private Sector

- Planning for pandemic influenza by business and industry is essential to minimize a pandemic's impact. Companies that provide critical infrastructure services, such as power and telecommunications, also have a special responsibility to plan for continued operation in a crisis and should plan accordingly. As with any catastrophe, having a contingency plan is essential. www.pandemicflu.gov

What Should We Expect?

- Lessons from 1918?
- 25-30% attack rate
- +/- 10% fatality rate
- 500,00 – 600,000 deaths in U.S.
- 40-50 million globally
- High percentage of deaths in people 15-35
- Government response
- Public information



Other 20th Century Pandemics

- **Asian Flu 1957-58**
70,000 deaths in U.S.; 2-3 million globally
- **Hong Kong Flu 1968-69**
34,000 deaths in U.S.; 1-2 million globally

Note: Seasonal flu has attack rate of 5-20%;
~36,000 annual deaths in U.S.

Near-Misses?



- **Swine Flu 1976**

~200 infected; 1-2 deaths?

40-45 million inoculated



SARS

- 3-4 months (March–June 2003)
- 8,000 people infected
- 800 deaths
- Flights to Hong Kong reduced by 2/3
- \$18 billion economic impact in East Asia

What Kind of Plan?

- *Private Sector: Business Continuity*
 - What does this mean in the context of significant decline in demand?
- *Critical Infrastructure: Continuity of Operations – Essential*
 - To what extent is air transportation part of the nation’s “critical infrastructure?”

Pre-Existing Plans

- *Emergency Response Plan*
 - Aviation Accident
 - Natural Disaster
 - Terrorism (bomb threats, hijacking)
- *Business Continuity Plan*
 - Natural Disaster
 - Labor Disruption

Additional Components for Airlines

- In-Flight Procedures
 - Identifying and reporting communicable diseases
 - Providing medical assistance
 - Infection control (e.g., universal precautions)

Additional Components for Airlines

- Post-flight Procedures
 - Coordination with CDC/local public health
 - Quarantine?
 - Passenger contact tracing
 - Crew follow up
 - Aircraft cleaning/disinfection

Pre-Flight Procedures?

Airline screening of passengers is problematic:

- authority
- training
- civil rights
- medical advice
- personal responsibility

What Should We Plan For?

Lessons from SARS

- Air travelers identified as spreading disease
 - Control measures focused on airline passengers
 - Airport screening of outbound passengers
 - Quarantine of inbound passengers
- Immediate drop in demand
 - Broad region beyond affected areas
 - Significant lag in return to previous levels

Other Relevant Experience

- September 11, 2001
 - Direct impact: airspace closure
 - Longer term effect on airline industry: passenger demand, increased security (“hassle factor”), employee morale

Impact of a Pandemic on Private Sector Businesses

- Employee Absenteeism
- Supply Chain Disruption
- Demand Shock

[T]he most immediate and largest economic impact of a pandemic might arise not from actual death or sickness but from the uncoordinated efforts of people to avoid becoming infected. . . .

Milan Brahmbhatt, World Bank

Airline Sector-Specific Factors

- Demand-sensitive
- Dependent on discretionary spending
- Underlying fear/anxiety associated with flying

Demand Shock

- CBO estimates:

Severe scenario (1918): **67% decline** in demand

Mild scenario (1957/1968): **17% decline** in demand

- Duration?
- Timing of shock (at outset of pandemic or over time)?

Hong Kong Airport During SARS



“Disruptions in international trade could result in cascading impacts across U.S. private sector businesses **even before pandemic disease outbreaks reach the United States.**”

Pandemic Influenza: Preparedness, Response and Recovery Guide for Critical Infrastructure and Key Resources, Department of Homeland Security, September 19, 2006

WHO Pandemic Phases

Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

Some of the big immediate losers, joining the poultry industry, would be the tourism sector, travel and transport businesses, the hospitality industry, and luxury goods suppliers. . . Planes, to the extent they took off, would be virtually empty.

The Avian Flu Crisis: An Economic Update, Dr. Sherry Cooper, BMO Nesbitt Burns, Mar. 13, 2006)

Short-term Impacts

- Many of the short-run disruptions to the economy that would come to pass under the conditions of CBO's severe scenario might also occur in the event of a relatively mild outbreak. That is, the public's response to an avian flu pandemic, as to the SARS outbreak, might be disproportionate to the event's clinical severity (or lethality). . . . **It might only become obvious in retrospect that the pandemic had been mild.**

– *Congressional Budget Office, December 8, 2005*

Psychological Impact

- Under different scenarios using the same epidemiological assumptions (i.e., attack rate and case fatality rate), the economic impact may vary significantly depending on psychological impact.
- Asian Development Bank study concluded that economic loss could be doubled under severe psychological impact scenario.

- [I]t would be firms with strong balance sheets and capitalization that are more likely to survive steep downturns in demand and cash flow that could last from 6 months up to 2 years, especially in the sorts of services sectors noted above.
Bankruptcies would likely surge among highly leveraged firms, and in particularly exposed sectors, such as airlines.

Milan Brahmbhatt, World Bank

Critical Infrastructure: Air Cargo

- On-line transactions may increase as people practice social distancing
- Air cargo capacity depends in part on schedule passenger service (belly cargo)
 - “. . . to the degree that shipping companies were operating, on-line purchases could offset some of the decline in retail trade.”
(CBO 2005)

Impact on Aviation Sector

- Demand Shock
- Disruption of Supply Chain
- Employee Absenteeism?

One clear lesson from the SARS outbreak was the psychological impact on economic activity. In a situation where the transmission of information is costless, overreaction is common. Governments and international agencies should **act transparently and disseminate accurate and timely information.**

*Potential Economic Impact of an Avian Flu Pandemic on Asia
Asian Development Bank, ERD Policy Brief No. 42 (Nov. 2005)*

Recent experience with SARS and other disease outbreaks have shown that the public and markets often panic in the face of uncertainty. **Governments should react to the outbreak responsibly and not contribute unnecessarily to panic.**

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Asian Development Bank, ERD Policy Brief No. 42 (Nov. 2005)*

Observations

- Most attention has been focused on worst-case scenario:
 - Employee absenteeism
 - Effect of supply chain disruptions
 - Loss in productivity
- Economic Impact on aviation sector may be almost as significant under mild pandemic scenario

Preliminary Conclusions

- **Airline sector resources may be better directed to mild pandemic scenario/false alarm.**
 - Managing information/communications
 - Short-term business survival
 - Recovery of demand
- **Severe pandemic will require government support to maintain air transportation as part of critical infrastructure and restore system post-pandemic.**