The first pandemic of the Information Age

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how IT must prepare now for an influenza pandemic – before we run out of time

What we’ll cover
• Brief history of influenza
• Previous influenza pandemics
• Understanding what you truly need to prepare for
• Leveraging preparedness ROI for bioterrorism, natural disaster preparedness

• An avian flu pandemic is by no means certain. Yet the threat of a pandemic is real, so we must prepare, the same way we must prepare for other natural calamities.

What is Influenza?

Influenza is a virus.

• Seasonal flu outbreaks usually appear in winter months and is usually more severe for the very young, the elderly, or those with pre-existing health conditions.
• Yearly, 5-20% of population “gets the flu” (130 million people in China alone).
• Annually, seasonal flu causes >200,000 hospitalizations in US; 36,000 deaths yearly in US; Globally, 250,000 to 500,000 deaths each year
• $37.5 billion in economic costs from influenza and pneumonia

Two types of influenza:
• Type A
  – Infects humans, birds, pigs, cats and other animals
  – Influenza A is capable of mutating to new strains
  • More severe illness
• Type B:
  – Infectious only to humans
  • Causes epidemics, but generally a less severe illness
Influenza Type A

- Influenza A is subtyped by surface proteins
  - Hemagglutinin (H)
    - 16 different types
    - Helps virus enter cells
  - Neuraminidase (N)
    - 9 different types
    - Helps virus leave cell to infect others

What is a Pandemic?

- An influenza pandemic occurs when an epidemic of a novel strain of a virus occurs simultaneously worldwide.
- Other pandemics include encephalitis lethargica ("Awakenings") from 1917-1928, and the current HIV/AIDS pandemic, because it is on every continent and there is little to no native immunity.
- Flu pandemics come in "waves," or cycles. There can be two or three such waves.

What are the warning signs of a pandemic flu virus?

- Prerequisites for the Start of a Pandemic
  - Isolation from humans of a novel subtype of influenza, to which the general population has little or no immunity.
  - Demonstrated ability of the virus to replicate and cause disease in humans.
  - Efficient spread from person-to-person, expressed as sustained chains of transmission causing community-wide outbreaks.

We’ll get back to ya
**Influenza Pandemics of the past 300 years**

- 1732-33 (Connecticut)
- 1781-82
- 1800-02
- 1830-33
- 1847-48
- 1857-58
- 1889-90 (presumed H2N2)
- 1918-19 (Kansas)
- 1957-58
- 1968-69

* = a high death rate

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**Seasons when Pandemics started**

- Winter
  - January 1830
  - January 1957
- Spring
  - March 1847, May 1889,
    - March 1918 (first wave, mild)
- Summer
  - August 1857, August 1918
    - (second, most severe wave)
    - July 1968
- Autumn
  - October/November 1732
  - Autumn 1781
  - September/October 1800

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**Historic 20th Century Pandemics**

- **1918-1919 Spanish Flu**
  - Type A virus (H1N1)
  - >50 million deaths worldwide
  - Nearly 700,000 deaths in the United States
  - Nearly half were young, healthy adults
  - Believed to have started in rural Kansas in Spring, 1918
  - The second wave was the lethal wave, with almost all of the worldwide deaths occurring in just 20 weeks.

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**Current bad actors and potential pandemic strains**

- H5*
- H7*
- H9*
- H9+ (1918, 1919)
- H1+ (1918, 1947, 2009)
- H3+ (1968)

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**Avian Flu**

- 2003-2007
- 2003
- 1999-2002
- 1998

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**20th Century Pandemics**

- H1
- H2
- H3

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Source: "Influenza: The Last Great Plague," W.B. Beveridge, Prodist, NY, 1977
**Historic Pandemics**

- **1957-1958 Asian Flu**
  - Type A virus (H2N2)
  - First identified in China
  - February 1957
  - Spread to U.S. by June 1957
  - 70,000 deaths in the United States

- **1968-1969 Hong Kong Flu**
  - Type A virus (H3N2)
  - First detected in Hong Kong early 1968
  - Spread to U.S. later that year
  - Approx 34,000 deaths in the United States, fewer than seasonal flu deaths
  - Our seasonal flu kills 36,000
  - Why? Speculation N2 did not “drift” far from 1957 strain
  - Virus is still circulating today and antibodies are part of 2005 and 2006 seasonal “trivalent” vaccine

**The pandemic that wasn’t: Swine Flu, 1976**

- In 1976, an Army recruit died of swine flu, and some scientists predicted a pandemic.
- President Gerald Ford ordered enough vaccine to protect the entire country, saying: “No one knows exactly how serious this threat (Swine Flu) could be. Nevertheless, we cannot afford to take a chance with the health of our nation.”

Swine flu never reappeared, but 40 million Americans got shots and a few developed a rare paralytic disease called Guillain Barre syndrome. The vaccination program was ended. But then regular flu broke out (A/Victoria H3N2, in a nursing home in Miami) and the only vaccine available was mixed with swine flu. The vaccine was distributed and heads rolled.
Concern with A/H5N1 Avian Influenza

- Virus mutates rapidly
- Has shown ability to acquire genes from viruses infecting other species
- H5N1 has acquired some of genetic changes in the 1918 virus associated with human-human transmission
- Causes severe disease in humans
- High fatality rate

Why H5N1 is of Particular Concern

Traditional belief of antigenic shift leading to pandemics of human influenza

H5N1 influenza is able to infect humans directly

The pig is the "mixing vessel"

Reassortment

Adaptive Mutation or Recombination
H5N1 has jumped the species barrier.
Two milestones:
100th Vietnamese case; 200th global fatality

60.9% Case fatality Rate (CFR)
Expressed as a percentage of confirmed cases.
Actual CFR is probably lower, but still in double digits.
Prior Cases of Probable Human-to-Human Transmission of H5N1 Viruses: "Dead-End" Transmission

- 1997, Hong Kong: limited transmission of H5N1 virus to health care workers and household contacts of patients. These contacts exhibited mild or no illness and did not transmit the disease to others.

- 2004, Thailand: evidence of probable human-to-human transmission in a family cluster. Transmission was associated with prolonged, very close contact between a severely ill child and her mother. Transmission did not continue beyond one person.

- It is possible that other cases of human-to-human transmission have occurred in association with the H5N1 epizootic that emerged in Asia in 2003.

North Sumatra, Indonesia Cluster: April - May 2006

- Map showing family contacts and transmission route.
- January to September, 2007
Great Britain

Germany

Kelbra Lake, Central Germany – repeated in Nuremberg (above right) and Munich (left) in the summer.

Germany – Sept 2007

A volunteer of German technical aid organization THW (upper right) fumigates the hygiene sluice at a farm near Erlangen, southern Germany, Sunday Aug. 26, 2007. Tests have determined that birds at the poultry farm died of the H5N1 strain of bird flu, and some 165,000 birds were being slaughtered as a precaution, authorities said Saturday Aug. 25, 2007. (AP Photo/Udo Dreier)
Disinfecting in Hunan, China, in wake of outbreak and hospitalization of Chinese Army soldier.
HO CHI MINH CITY, Vietnam: U.S. President George W. Bush toured a bird flu lab Monday and praised Vietnam for its successful battle against the disease, pledging U.S. support and urging Southeast Asia to prepare for a potential pandemic. Bush arrived at the Pasteur Institute — one of Vietnam’s top research institutes for communicable diseases — in southern Ho Chi Minh City.

National Institute of Infectious and Tropical Diseases, Hanoi (patient at left, hidden by equipment — high school student, died July 2007)

Medan, Indonesia
Singapore, Malaysia

Health officials scatter limestone at the poultry farm in Kiyotake, Miyazaki Prefecture, site of the first of four H5N1 outbreaks, in January.

Australia

CSIRO workers exposed to bird flu

Gazette Advertiser

Foulkeiros charged over race attack

Stakes out for four games
Government response to avian flu threat in birds and humans

How is Bird Flu Monitored?

- WHO maintains regional labs (London, Melbourne, Jakarta, Cairo, CDC Atlanta) that test both bird and human specimens
- The World Health Organization for Animal Health (OIE) tests bird samples
- State Departments of Health and Agriculture are on active surveillance
- The surveillance permits implementation of control measures if needed
- Vaccine trials are underway for the H5N1 strain, but are in early phases

Experts at WHO and elsewhere believe that the world is now closer to another influenza pandemic than at any time since 1968, when the last of the previous century’s three pandemics occurred. WHO uses a series of six phases of pandemic alert as a system for informing the world of the seriousness of the threat and of the need to launch progressively more intense preparedness activities.

“The designation of phases, including decisions on when to move from one phase to another, is made by the Director-General of WHO.”
Why at LESS risk in 2007

- Antibiotics, vaccines for bacterial pneumonia complications of influenza
- Some antiviral medicines
- IV fluids, ventilators
- Greater ability to do surveillance, confirm diagnosis of flu
- Better global coordination, disease management, awareness, warnings (SARS outbreak contained in 2003)
Why at MORE risk in 2007

- A lot more international travel
- Contact with far more people daily
- Very little surge capacity in health care today
- More elderly and immune-compromised people (HIV/AIDS, Chemotherapy patients, etc.) in population
- "Just-in-time" ordering of needed supplies is standard practice today, instead of warehousing critical items on-site
- Unlike 1918, today’s society not used to rationing, sacrifice.

Non-Pharmaceutical Interventions

- A recent study showed that cities that implemented non-pharmaceutical interventions earlier had greater delays in reaching peak rates of death, lower peak rates of death, and lower total number of deaths.
- There was a statistically significant association between increased duration of nonpharmaceutical interventions and a reduced total number of deaths.
- "These findings contrast with the conventional wisdom that the 1918 pandemic rapidly spread through each community killing everyone in its path. Although these urban communities had neither effective vaccines nor antivirals, cities that were able to organize and execute a suite of classic public health interventions before the pandemic swept fully through the city appeared to have an associated mitigated epidemic experience.”
Top 10 reasons why we have not seen a flu pandemic since 1968:

10. The H5N1 virus has not "made it" around the globe
9. Surveillance of poultry and wildfowl, including aquatic wildfowl, has improved since 1968.
8. Rapid typing of influenza genetics allows public health officials to move decisively to contain virus.
7. Education campaigns help to better promote awareness, especially in nations where H5N1 is becoming endemic.
6. Mass culling of poultry has beaten back the virus many, many times around the world.
5. Financial compensation for culled poultry helps convince some farmers to report deaths of poultry to the authorities.
4. The neuraminidase inhibitor antivirals (Tamiflu in particular) have been repeatedly effective in reducing H5N1 symptoms and ultimately in saving patients.
3. The WHO and global health authorities are ready to fly in supplies and "stamp out" outbreaks quickly. The August, 2006 "Tamiflu blanket" of 2,000 Indonesian villagers in four separate hamlets serves as evidence of the ability of public health authorities to combine Reasons #9, #8 and #5 into a coordinated action plan.
2. The Hong Kong government’s 1997 action to cull every bird in the city as the first suspected human-to-human transmission of the “new” H5N1 virus probably saved the world from a pandemic. Saved, or at least delayed the pandemic.
1. Global seasonal flu vaccine programs have proven pretty accurate. They miss the B formulation more often than they miss the A, but still it has helped reduce the amount of seasonal flu, which helps reduce the potential for a pandemic.

co-#1: We are damned lucky.

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Top 10 Reasons why, despite all these efforts, we will still have a flu pandemic one day - and probably soon:

- 10. H5N1 is becoming endemic in many parts of the planet, especially where people live in close physical proximity to poultry.
- 9. Financial compensation for culled poultry helps somewhat, but the amounts paid usually are far short of actual losses incurred.
- 8. Smuggling of poultry, exotic birds and fighting cocks continues to accelerate.
- 7. Modern industrial farming practices may actually and inadvertently encourage the spread of virus.
- 6. Despite the best 21st Century medicine and technology, avian flu of all types continues to spread and the frequency continues to accelerate.
- 5. Globalization has also inadvertently encouraged the spread of virus.
- 4. Migratory wildfowl continue to transport the H5N1 virus, along with every other flu virus known to Humankind, in their bellies.
- 3. H5N1 has jumped the species barrier.
- 2. The only continents where H5N1 does not have a strong foothold are the Americas, Australia and Antarctica. Unfortunately, that statistic can be wiped out with a single transcontinental or transoceanic airplane flight.
- 1. History is against us.
Impact to the Critical Infrastructure

- Utilities having trouble with staff shortages, inability to replace supplies and parts.
- Blackouts, brownouts occurring.
- Utilities forced to begin “rolling blackouts” to deal with staff shortages and shortages of fuel.
- Fresh water systems cannot purify drinking water because of shortages of chlorine, other chemicals.
- Absenteeism of 30% to 50%.
- Fuel shortages/restrictions due to drop in oil imports.
- Disruptions in Internet, communications due to sudden and widespread deployment of business and government “work at home” plans.

Impact to Public Health and Health Care

- No surge capacity in health care exists in 2006.
- Absenteeism of 30% to 50%.
- High numbers of cases and hospitalizations. Death rates could reach or even exceed 2.5% of sick.
- Death rate for pregnant women is 20%.
- Care shifted from hospitals to being taken care of by family/friends/people in neighborhood.
- Sick people who live alone, or with small children only, in dire straits.
- Young children trying to take care of sick parents, with no support.
Impact to Social Services

- Absenteeism of 30% to 50%
- Children neglected because parent(s) too sick to provide care
- Orphaned children whose parent(s) have died (in 1918, NY received 21,000 “new” orphans in 20 weeks)
- Typical household has food on hand to last 3 days.
- Few families have emergency reserves for a prolonged period
- Low-income least able to set supplies aside for an emergency
- Prices will rise quickly in emergency.

Impact to Day Care Centers, Nurseries, Schools and Colleges

- Absenteeism of 30% to 50%
- Closing of schools, nurseries, day care centers and colleges/universities (Social Distancing)
- Schools and colleges will have to decide if learning will continue “virtually” or cease
- Makeshift hospitals established in school gymnasiums
- Campus police deputized for local law enforcement duties
- Colleges having to feed and cope with students with no where else to go – no home but the dorm.

Impact to Public Safety

- Absenteeism of 30% to 50%; this causes law enforcement to respond only to life and death situations
- Inadequate amounts of antiviral meds, leading to violence at treatment sites
- Flu outbreak leading to violence in prisons, jails
- Courts shut down; no one willing to serve on a jury
- Some neighborhoods organized, collaborative; others disorganized with individuals hoarding
- Lawlessness as criminals try to exploit uniformed officer shortages;
- Potential for activation of National Guard, military to maintain order
**Impact to the Economy**

- People working at home when possible; others taking paid or unpaid leave
- Absenteeism of 30% to 50%
- Massive disruptions in global supply chain, leading to shortages of all essential commodities
- Shortages of fuel, food, essential supplies; prices skyrocket.
- Closing of events and businesses due to effects of social distancing
- Drop in GDP of -5% to -6% (severe recession or worse)

**What might occur**

- In the end, after several waves and 18-36 months, the pandemic is declared to be officially over
- Over 90,000,000 Americans became infected, 45,000,000 became seriously ill and **nearly 2,000,000 deaths** occurred
- **Huge economic loses from closed businesses and disrupted global supply chain (CBO est. -5% to -6% GDP).**
Challenges to Government

• How to maintain public health, public safety and public order with a 25% to 40% reduction across the board in staff.
• How to maintain “retail” government operations such as social services, welfare, unemployment compensation and other such “storefront” services with government employee absenteeism rates approaching/exceeding 40%.
• How to “Webify” additional critical government functions that are currently not available via “eGovernment” Websites.
• How to design, install and pay for a radically scaled-up remote connectivity solution in order to facilitate “socially distanced” (Work at Home) functions via IT and how to move paper during that time.

Challenges to Government

• There has never been an influenza pandemic in what we would define as the “Information Age.”
• We all agree that IT is “The forgotten resource.”
• No one outside of IT fully realizes that no agency work can be done without mainframes, servers and PCs.
• Now, with a pandemic looming, they might understand how important IT really is.
Once the WHO threat level is raised…

- A frantic agency head or local government administrator will rush into your office and scream, “I need a work at home plan – NOW!”
- You will calmly look back and say,
  - “That is why I put in all those purchase requisitions for protective equipment, additional bandwidth and a secure virtual network. Since they were all turned down, we will have to do things a different way.”
- That is when you will take over the discussion within your government entity.
- Or, you could do everyone a favor and prepare today.

The pandemic plan for IT

- Encourage creation of agency pandemic planning team
- Ensure "retail government" ops continue
- Acquire protective equipment
- Prepare to shut down nonessential IT services
- Cross-train your staff
- Design, implement and support Work at Home plans
- Prepare for supply chain failures
- Prepare Communications Plan
- Teach protective actions
- Gain an understanding of influenza and how it works
- Leverage this planning for similar scenarios
- Update DR and COOP plans NOW

What would Ike do?

- “The plan is useless – it’s the planning that’s important.”
- Ike’s point is that events will never go according to The Plan – but a mature planning process will help you prevail.
Encourage creation of agency pandemic planning team

- Legal
- Human Resources
- Training Development
- Information Technology
- Procurement/Purchasing
- Communications/Press Secretary
- Facilities/Maintenance/janitorial
- And at the top….. Your agency head, chief administrator, or chief surrogate.

Move more business processes to the Web for customers and employees alike
Preserve the ability of the agency to generate data and, more important, cut checks.
Prepare now to do these things.
Remember you will be down 30%+ in attendance.
Discontinue nonessential ops.

Ensure “retail government” ops continue
Ensure “retail government” ops continue

- Retail government service delivery offices in the social, medical and law enforcement “safety net” domains will have to remain open, and certain employees will have to remain exposed to citizens while at work.
- Keeping offices open will be essential to preserve the integrity of government and to care for its customers.
- Can you imagine what will happen if government fails its citizens when they need it the most? – *Katrina times 400 in Florida alone.*

Ensure “retail government” ops continue

- Inventory business processes with intent to move them to “eGov” operations
- Focus on data center integrity *first.*
- Work with business partners to ensure they are “on top of” pandemic planning
- Pay more to have priority restoration if networks fail
- Have redundant communications plan (cellphones, aircards, broadband wireless, satellite, etc.) if network or Internet fails
- Work hard to get Tamiflu for key IT workers.

Acquire protective equipment

- N-95 masks or surgical masks
  - 3 per employee per workday for 6-12 weeks (you do the math)
- Alcohol-based hand sanitizer
  - Enough for 6 – 12 weeks
- Gloves (vinyl – some are allergic to latex)
  - Same ratio as masks – 3 pairs per workday for the duration of a wave of a pandemic
Working with Procurement

- Do they know what to buy?
- Do they know the quantities?
- Do they know the context?
  - Everyone and their brother will want the same items and be willing to pay more for them.
- Does your agency have the money to increase expenditures on staples?

Prepare to shut down services

- Grab your list of IT services (ITIL) and (re)prioritize them with governance board
- Prepare to shut down ALL nonessential services or to abandon SLAs for same
  - Do not bring these services back up if they fail, unless you can support them later
- If not an ITIL shop, then work with upper management to prioritize applications by criticality. Maintain the list and review annually as part of Dr/COOP.

Cross-train your staff

- Create written instructions/procedures for critical processes that can be carried out by others
- Cross-train your staff, ideally three-deep
  - Anticipate 30% morbidity (illness) within staff
  - Assume absenteeism due to closure of other schools, day care centers
  - Train by TASK, not by what somebody does
  - Maintain a matrix of staff training and widely distribute and post in disaster recovery books and agency COOP plan
  - Cross-train inside and outside of Data Center; in other words, cross-train non-data center people in simpler technical tasks such as tape rotation.
  - Don’t cross-train on services you will disconnect or allow to fail!
### Design and support Work at Home plans

- In response to a pandemic, business, corporate America and government are all attempting to enable "Work at Home Plans."
- But just what is meant by working at home? How will paper get home to people? Who will deliver it? How will people input data?
- How will people complete their work? What infrastructure will be necessary in order to facilitate this? Who will pay for it?
- How will you secure the thousands of home PCs needed to fully implement such a plan?
- Be prepared to "lose the Internet" (Booz, Allen)

### Let’s define “work”

- Government still runs largely on paper
- Forms have to be inputted into computer systems
- The business process must be taken apart in order to be streamlined
- Tremendous opportunity to further digitize government – and we **cannot afford to lose this chance to streamline government ops!**
- Inventory business processes with intent to Webify them as “eGov” operations

### The home office is key.

- Does the user have broadband? Eliminate those who do not, or prepare a plan to have the agency pay for home broadband.
- Does the user have a PC? Eliminate those who do not, or prepare to supply users with laptops.
- Does the user have the appropriate applications suite, antivirus and antispyware? Prepare to have legal review your existing licensing agreements (“Seat” may allow you to install on a home PC if the office PC is turned off).
- Is the OS patched? Any other security nightmares such as children?
• Have business analysts work with Department staff to seek to streamline/digitize processes  
• Remember, only those processes that are mission-critical should be candidates for conversion  
• Aim for both an “eGov” Webified solution and a manual-to-digital solution  
• Concentrate on alternatives to moving paper.

Potential failures in work at home plans

• Paper must be quarantined, lest employers inadvertently sicken otherwise healthy homes  
  – CDC and St. Jude say virus becomes inert after 12 to 24 hours on paper and porous surfaces  
  – Each stage in the paper handling process requires a day quarantine to prevent infection (learn from the death of Inuits (Eskimos) in 1918).

Potential failures in work at home plans

• How will paper get home?  
  – USPS? Irregular deliveries  
  – Will agencies put together their own delivery routes?  
  – If gas is scarce, how will deliveries take place?  
  – Is it realistic to expect government to set up its own postal service?
Are PDFs the answer?

- Scanning and emailing of documents might be helpful and would eliminate any potential for infection. Scanning staff would need (and should demand) protective equipment.
- The agency would need to set up a scanning solution to account for tens of thousands of documents at each “retail” site, or in each regional office.
- Excessively large attachments might overwhelm the agency networks.
- ISPs will not accept large attachments, so emailing to private accounts is unrealistic.

SSL VPNs and you

- Time for an SSL VPN solution with rigid, unforgiving policy enforcement.
- Implement an SSL VPN service and be prepared to scale it radically upward.
- Be prepared to “lose the Internet,” as network service providers will also experience high absenteeism and be forced to scale back SLAs (Booz Allen).
- That is one compelling reason to upgrade to priority restoration.

Conclusion, W@H plans:

- Government cannot afford to implement “perfect” work at home plans in the current financial and political climate.
- W@H plans can be successful, if the process does not involve the moving of paper or constant online access to legacy systems; if applied properly; if created with enough advance planning; and if exercised frequently.
- Once the WHO raises the threat level to Four, be prepared to have great difficulty in obtaining equipment.
- Corporations are OK to proceed with broader work at home plans. They are usually more “digital” than government.
Prepare for supply chain failures

- In a pandemic of any severity, the supply chain will falter.
- In a 1918-type (or worse) pandemic, the supply chain will fail.
- If possible, keep essential supplies/ parts stockpiled in advance (4-6 week supply).
- **Survey your suppliers.** Resurrect the old Y2K adage: If they can't articulate their plans for pandemic flu preparedness, be wary of their ability to survive.
- In fact, go find your Y2K plans, turn to the tab marked “Supply Chain Workarounds,” update it and put it into your DR/COOP Pandemic Annex.

Prepare Communications Plan

- How will key managers communicate among themselves?
- How will information be conveyed to employees?
- How will employees know who to call in specific situations?
- How will information be conveyed to business partners?
- How will the public know which “safety net” offices are open and which are closed?

Communicate with employees and teach preparedness at work and at home

- Conduct an awareness campaign within your organization.
- Cover work and home issues
- Teach employees how to prepare themselves and their families now, instead of later – when it is too late
- Teach protective actions and personal hygiene
- Prepare them for moving from office to office – even from agency to agency.
**Consider emergency notification services**

- Companies such as Dialogic Communications, TechRadium and others have affordable, hosted services that allow an agency to push information to employees via any type of device
- Eliminates the old “phone tree” tedium
- Includes voice synthesis and fax
- Can allow agencies to poll their workforce to see who can work and who is too sick to report
- Will be critical when trying to open offices or trying to tell people which office to report for work

**Teach protective actions**

- Hand washing without recontamination
- Covering cough, not using hands
- Avoid putting hands to face, mouth, nose, eyes.
- Staying home if any signs of illness
- Proper use of protective equipment
- Handling of diseased or dead birds – don’t!
- Cleaning hard surfaces, wearing gloves, using hand sanitizer and wearing masks

**Communications with the public**

- Be honest
- Be forthcoming
- Don’t appear condescending or give false assurances – people want information they can act upon
- Give people a sense of empowerment over their situation – give them things they can do.
- Don’t overpromise or underdeliver
- Did I mention be honest?
Other IT Issues to consider

- Data Center operations (lights out operation, automated patching)
- Remote Access (Citrix, RAS, Terminal Services) as alternatives to SSL VPN
- Don’t forget field staff!!
- Maintaining agency cybersecurity in the midst of all this
- Do you enable or eliminate Help Desk operations?
- PC support for employee personal computers? **NO**
- Ensuring security of access and data while dealing with employee personal computers **POLICY ENFORCEMENT via SSL VPN**
- Videoconferencing as alternative to face-to-face meetings – how will you support it if it malfunctions?
- Recovering from cascading emergencies (bird flu on top of hurricanes, terrorism, etc.)

Leverage this planning for similar scenarios

- Anthrax (loss of building for 3-26 weeks)
- Ricin (loss of building for 3-26 weeks)
- Bioterrorism or chemical weapons
- Natural disasters striking State Capitol
  - Hurricanes
  - Tornadoes
- Civil Disturbances
- Common themes:
  - What if my headquarters building were heavily damaged or destroyed, or people could not occupy it for an extended period of time?
  - Where would I put all the employees, and how could my agency recover and resume its core mission more quickly?

UPDATE DR AND COOP PLANS NOW

- Armed with your information and in conjunction with all agency peers, create your Pandemic Annex to your COOP and Disaster recovery plans NOW.
- Additional questions to answer:
  1. Does agency COOP Plan have an event horizon beyond 30 days?
  2. Within a 30 day – to – 120 day context, does it have a new definition of essential and nonessential personnel?
  3. Just for grins, imagine if you had to support agency operations AND a hurricane or terrorist event came during a wave of the pandemic.
  4. What plans would you engage?
The High Points

• All you can do is all you can do.
• COOP and disaster recovery plans must be realigned within an extended event horizon of 8 to 12 weeks per pandemic wave.
• Work at home plans require the exact expectation of WORK.
• Business processes must be broken down and redefined by task, not by person.

Plan, plan, and plan some more.

RUN A SIMULATION OF OUR PRODUCTIVITY IF WE LOST HALF OUR WORKFORCE TO A PANDEMIC.

SHOULD I ASSUME WE LOSE THE PRODUCTIVE PEOPLE OR THE PEOPLE WHO ARE OTHER PEOPLE TO RUN PANDEMIC SIMULATIONS?

TRY BOTH WAYS. OKAY, IT'S DONE.

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5 and 5
Review and engage your plan.

- Make last-minute adjustments
- Keep in mind the WHO says that the time period from a large outbreak in a population center to your town will be no more than 21 days. That’s three weeks you’ll have left to prepare.
- You won’t be able to buy any protective equipment.
- Engage the Plan. Go with what you got.

Gain Global Context

- Read voraciously about the 1918 pandemic (and the 1976 Swine Flu scare) and find a comfortable middle ground
- Subscribe to Google, Yahoo and news services’ RSS feeds/email alerts on “bird flu” and “pandemic”
- Gain an understanding of influenza and its history
- Learn how to protect yourself against all influenzas
- Learn how to recognize the global “warning signs” when the alert status is about to be raised.
- FOLLOW THE MONEY (and the Tamiflu).
- And if you hear the words “sustained human-to-human transmission has occurred” in the mainstream media, be ready to “Rush to complete your preparations.”
Stock supplies

- 3 to 6 weeks, depending on personal anxiety
- Food, WATER*, paper goods, batteries, flashlights, etc. You know – hurricane/ice storm supplies!
- Medicines that treat symptoms of flu, including pain killers, Gatorade (dehydration), diarrhea, chest congestion.
- Masks for sick family members (and for yourself, if that makes you feel better).
- Try to get Tamiflu NOW by prescription from your doctor. DO NOT buy Tamiflu on the Internet. Tamiflu will be gone from pharmacy shelves the minute the WHO raises the threat level and most definitely by the time a pandemic starts.

* Municipal water treatment systems stock fewer than 2 weeks’ worth of chlorine, and in many cases, even less than that.

Get everyone (eligible) in your family a Pneumococcal Polysaccharide Vaccine (PPV).

- Pneumococcal disease can lead to serious infections of the lungs (pneumonia), the blood (bacteremia), and the covering of the brain (meningitis).
- About 1 out of every 20 people who get pneumococcal pneumonia dies from it, as do about 2 people out of 10 who get bacteremia and 3 people out of 10 who get meningitis.
- People suffering from severe influenza or with special health problems are even more likely to die from the disease.
- Drugs such as penicillin were once effective in treating these infections, but the disease has become more resistant to these drugs, making treatment of pneumococcal infections more difficult.
- Vaccine protects against 23 types of pneumococcal bacteria.
- Healthy people develop protection to most or all of these types within 2 to 3 weeks of getting the shot.

Get your seasonal flu shot

- That way, if you have your pneumonia vaccine, and your seasonal flu shot, and there’s a pandemic, and you fall ill…. Well, then you know what you have, my friend.
- Seasonal flu surveillance and vaccine formulation has gotten pretty dang good.
- You won’t become the “mixing vessel”
- Also, a seasonal flu shot MAY provide a very slim modicum of protection if an “N1” virus becomes pandemic.
Ten tips on pandemic flu planning (from UK)

- Lessons from the past are not always learned - we must do better than with Foot and Mouth and SARS
- It won't go according to plan - biological, political and economic impact will be complex
- Keep a sense of proportion - most people will survive
- Not just a health issue - businesses will suffer
- Lots of heroes out there - people will outperform expectations
- Communication will falter - we need tried and tested systems for contacting staff
- The media loves disasters - can be good as well as bad
- Good enough is good enough - less than perfect care and rationing is inevitable
- Low tech is reliable - hygiene as important as oseltamivir
- Involve the public - be honest and open

Source: Hilary Pickles, Hospital Doctor Pandemic Flu conference, London

References and Suggested Reading Materials

- National Academy of Sciences, Institute of Medicine, http://www.iom.edu/
- University at Albany (NY) Public Health Pandemic Course, http://www.ualbany.edu/learning/registration/detail_Pandemics.cfm