

# Are You Ready for Pandemic?



Contact Info:

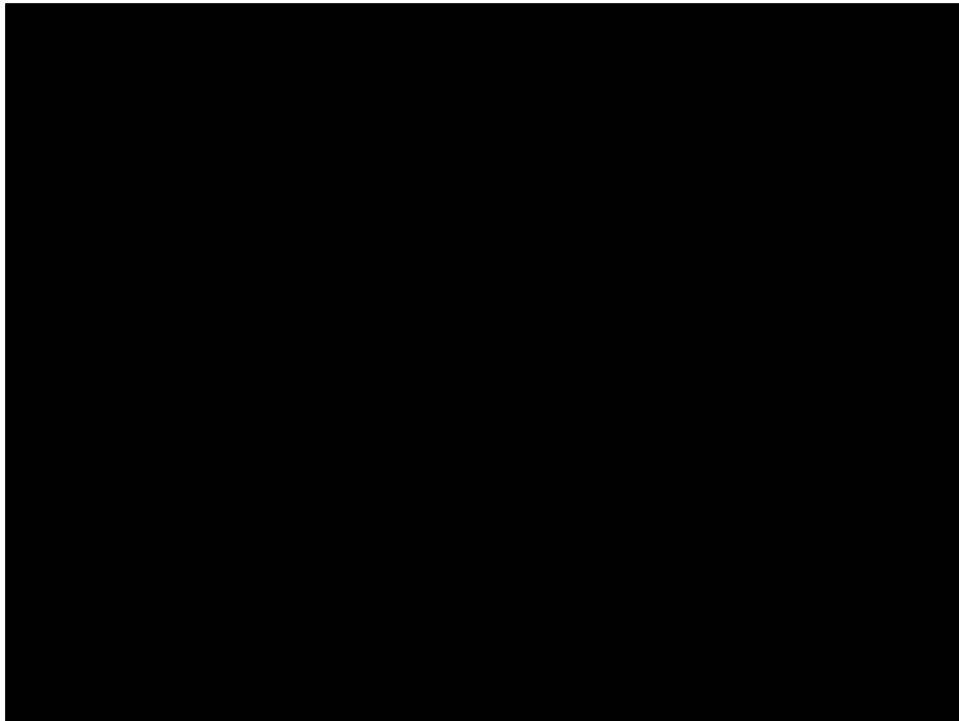
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# A Game of Numbers



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# A Game of Numbers



**What is the United States Population?**  
**300 million people**

## A Game of Numbers



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**How Many in the United States Will Be Sick with PanFlu?**

**1 in 3 -or- 100 million** (Historical Records 1918)



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**Half -or- 50 million** (Historical Records 1918)



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**WAIT – How Many Hospital Beds in the United States?**



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**What Percent are Occupied During Flu Season?**

**96% -or- 917,537** (AHA, 2005) **Only 38,281 Empty Beds**



**And No Nurses for 248,500 of those Beds**

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**How Many are Out of Service for Cleaning or Repair?**

**18% -or- 18,900** (M. Osterholm – NEJM, 2004)



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**How Many Ventilators are in Use for Patients?**

**67% -or- 70,035** (M. Osterholm – NEJM, 2004)

**How Many Ventilators are Available for Acute Use?**

**15% -or- 16,365** (M. Osterholm – NEJM, 2004)

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**How Many of the Sick Will Need Intubation?**

**Half -or- 12.5 million** (Historical Records 1918)

**How Many of the Sick Will Die Regardless of Treatment?**

**Half -or- 6.25 million** (Historical Records 1918)

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# A Game of Numbers



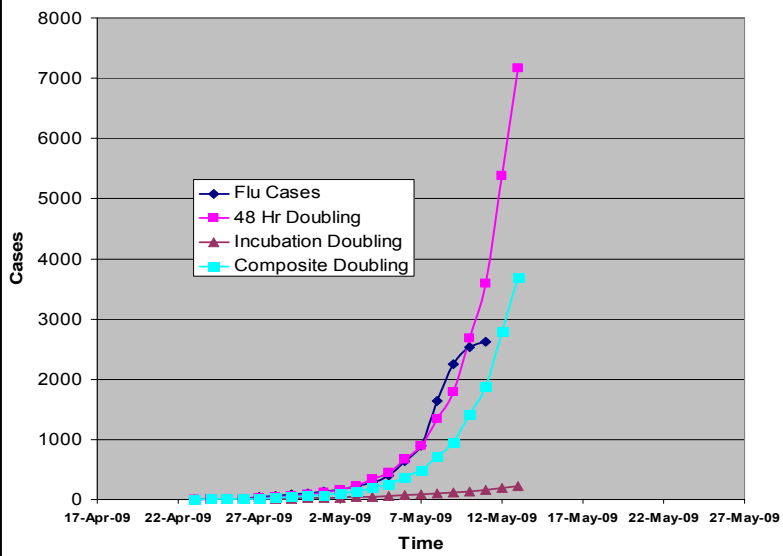
Do We Need To Worry About H1:N1?



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# A Game of Numbers

Case Doubling Rate



## The Enemy



- **Prior Pandemics**
  - **1735 (Thomas Malthus recorded pandemic on his tomb)**
  - **1825 (Thomas Malthus recorded pandemic on his tomb)**
  - **1917-1918**
    - Caused by virus - H1:N1
      - Avian Stain in 1917-1918
      - Also current “Swine Flu” strain
    - Studied compared to H5:N1 (Current S.E. Asian strain)
    - Both viruses have the same disease effect

## The Enemy



- **The Genetics of Influenza**
  - Antigenic Drift = 7 year Interval
  - Antigenic Shift = 13 year Interval



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## The Enemy



- The Genetics of Influenza
  - Antigenic Drift = 7 year Interval
  - Antigenic Shift = 13 year Interval
- Pandemic Flu
  - Entire population lacks immunity to flu strain
  - New Virus = Antigenic Drift x Antigenic Shift
  - 7 years x 13 years = 91 years  $\pm$  3 years



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## The Enemy



- Types of Flu
  - Average Flu Season
    - N2, N3
    - H2, H3, H4
  - Pandemic Flu
    - N1, N7
    - H1, H5

## The Enemy



- The Pathophysiology of Influenza
  - N1, N7 → Severe lung disease (50% Fatal)
  - N2, N3 → Mild / Moderate lung disease
- The Demographics of Influenza
  - H2, H3, H4 → Patient Ages <18 and >55 years
    - Death and disability due to patient frailty
  - H1 & H5 → Patient Age 20 to 45 years
    - Death and disability due to strong immune system

## The Enemy



- Swine Flu vs. Avian Flu
  - Avian Flu
    - Tend to be new strains (no immunity)
    - Have not mixed with other “old flu’s”
    - Passed between birds and straight to humans
    - Pandemics generally caused by Avian Flu
  - Swine Flu
    - Tend to be old strains (some immunity)
    - Mix with other “old flu’s” in domestic pigs (swine) to become a “new strain” (still some immunity)
    - Passed between birds and pigs then to humans
    - Epidemics generally caused by Swine Flu



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## The Enemy



**The Congressional Budget Office (CBO) estimates that 40 percent of the entire workforce would be unable to be physically present in the workplace in the event of a pandemic flu outbreak**

- 57% of all people age 18 to 40 will fall ill (compared to 33% of those <18 or >40)
- 26% of all people age 18 to 40 will be hospitalized (compared to 8% of those <18 or >40)
- 21% of all people age 18 to 40 will require intubation (compared to 4% of those <18 or >40)
- 17% of all people age 18 to 40 will die (compared to 2% of those <18 or >40)



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## The Enemy



### Federal Employee Telework Survey

- 73% of respondents report that they will not come into the office in the event of pandemic outbreak.
- 89% of respondents do not have personnel guidance on how to handle a pandemic outbreak.
- 21% of respondents know that their agency has a Continuity of Operations Plan (COOP) for pandemic.
- Only 27% know that their agency incorporates telework as part of its continuity of operations plan for pandemic outbreak.



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## Medications Myths



- Myths
  - Tamiflu will prevent infection
  - Yearly flu vaccines will prevent infection
  - If we need a new vaccine, it can be made in fairly short order
  - There will be enough to treat everyone, if needed
  - Stockpiling is a good idea



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## Mask Myths



- Myths
  - One size mask fits all
  - Any type of hospital style mask will do
  - Use of masks for any length of time is better than nothing at all
  - Only needed in crowded areas, at work, and/or around the sick



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## Quarantine Myths



- Myths
  - Quarantines are effective at reducing the spread of this illness
  - Only need to stay away from those who are ill



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## Human Behavior Myths



- Myths
  - People will choose work over family
  - It is an employer's market and will stay that way
  - Home problems will stay at home
  - Existing teams/departments/groups will stay together
  - What makes it great to work here will remain constant



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## Handwashing Myths



- Myths
  - Instant hand cleaner kills anything
  - Hand sanitizer is always as good as soap and water
  - Not needed if wearing gloves
  - When using soap and water...
    - Doesn't matter what kind is used
    - 5 seconds duration is sufficient



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## What Does Work?



- Telecommuting
  - **Not all jobs lend themselves to telecommuting**
  - **Not everyone wants to telecommute**
- Social Distancing and Rotating Shifts
- Try the things you learned in kindergarten:
  - Wash Your Hands
  - Sneeze in Your Sleeve
  - Don't Share Cups and Utensils
  - Stay in Your Seat



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## Kindergarten Rules



### “Wash Your Hands”

- 20 seconds of washing with antimicrobial soap and water is the recommended method
- Using instant hand sanitizer is better than using nothing at all
  - If it’s right there, it’s more likely to be used
  - Likely will need to reuse hourly
  - Need to clean surfaces and equipment, as well as hands



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## Kindergarten Rules



### “Stay in Your Seat”

- Social distancing has been recently and historically proven to reduce disease transmission
- Need to adopt at home, at work, and everywhere
- Plan for “cohorts” to reduce exposure
  - Home
  - Work
  - Community

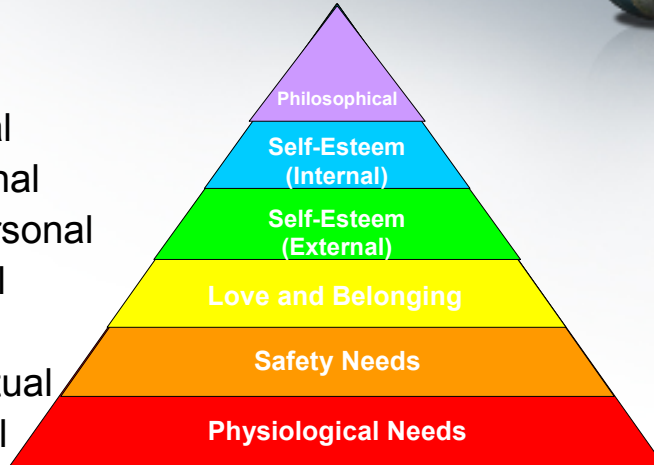


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## Building Human Continuity (Staying on the Island)



- Physical
- Emotional
- Interpersonal
- Societal
- Tactical
- Intellectual
- Spiritual



### Maslow's Hierarchy of Needs

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## Building Human Continuity (Staying on the Island)



- Physical
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### Shultz's Hierarchy

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## Building Human Continuity Physical



- Their Tribe
  - Sheltering
  - Staying Together
  - Providing for Our Own
    - Food
    - Water
    - Fuel
    - Medications
    - Money
- Your Tribe
  - Provide Housing
  - Include Family in Plan
  - Provide for Their Tribe
    - Food
    - Water
    - Fuel
    - Medications
    - Salary



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## Building Human Continuity Emotional



- Their Tribe
  - Support
  - Togetherness
  - Encouragement
  - Reassurance
- Your Tribe
  - Plan for communications with sources of emotional support
  - Eliminate lateral violence on a daily basis



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## Building Human Continuity Interpersonal



- **Their Tribe**
  - Urge to keep tribe physically together as a substitute for safety and security
  - Need to complete projects and objectives together
- **Your Tribe**
  - Assist employees to plan for safety and security of “the tribe”
  - Provide near constant communications to keep the employee connected to “the tribe”



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## Building Human Continuity Societal



- **Their Tribe**
  - Societal circle contracts to include only those closest to “the tribe”
  - New social connections within the shelter or temporary housing
- **Your Tribe**
  - Create societal circle based on employee teams and “their tribes”
  - Plan for employees to have alternate housing together, encouraging new social connections



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## Building Human Continuity Intellectual



- Their Tribe
  - Seldom plan before the disaster or prepare for the ramifications
  - Obtain information after the disaster from FEMA, Red Cross and other agencies
- Your Tribe
  - Assist the employee to plan and prepare for “their tribe” in a disaster
  - Provide information before the disaster and assistance coordinating with agencies after the disaster



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## Building Human Continuity Tactical



- Their Tribe
  - Few Americans have an All Hazards Family Disaster Plan
  - Failing to plan spurs everyone to master disaster coping skills together.
- Your Tribe
  - Assist the employee to create and practice an All Hazards Family Disaster Plan and a Family (Business) Continuity Plan



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## Building Human Continuity Spiritual



- Their Tribe
  - Develop a greater expression of their personal spirituality
    - More Spiritual
    - Reject Spirituality
- Your Tribe
  - Provide an environment open to the spiritual needs of the employee and “their tribe”
    - Respect Their Beliefs
    - Allow Their Expression
    - Limit Infringement on the Boundaries of Others in the Workplace



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Feel free to contact me if you have questions or  
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