Hospital Concerns Related to Pandemic Influenza

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Pandemic Influenza

- Personal impact of the 1918 pandemic
  - Scenes of heartbreaking loss were replayed in city after city around the country
  - Hospitals were overwhelmed
  - "There was no help to be found anywhere; everyone was busy caring for their own families." (*The Blue Death* – Johns Hopkins Public Health magazine)

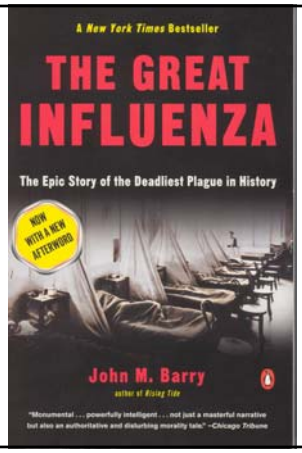
A Devastating Death Toll

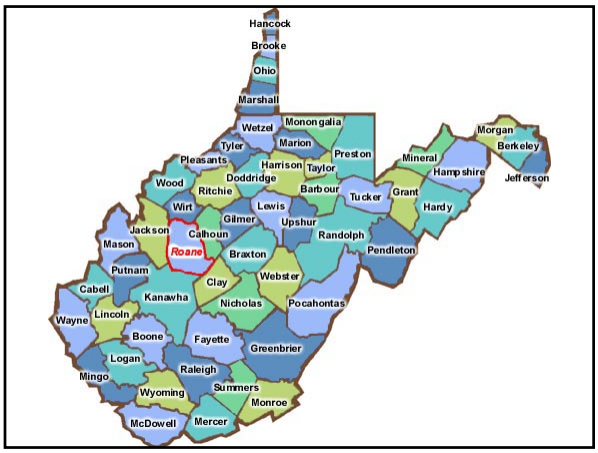
Some experts place the global death toll of the 1918 influenza epidemic as high as 100 million. If that upper estimate is correct, then the flu likely killed between 8 and 10 percent of the young adults in the world.

Running the numbers through the prism of other infamous epidemics, the 1918 flu killed more people in a year than the Black Death of the Middle Ages did in a century; it took the lives of more people in 24 weeks than AIDS has in 24 years.

If a scourge as deadly as the 1918 influenza epidemic arose in today's world of 6 billion people, it would take between 150 million and 300 million lives.

Source: John M. Barry, *The Great Influenza*

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Putnam
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Cabell
Kanawha
Nicholas
Pocahontas
Wayne
Lincoln
Boone
Fayette
Greenbrier
Logan
Raleigh
Mingo
Wyoming
Summers
Monroe
McDowell
Mercer


FARM
COUNTRY
STAY ALERT

CAH Conditions of Participation

- **§485.610(c) Standard: Location Relative to Other Facilities or Necessary Provider Certification**
  - The CAH is located more than a 35-mile drive (or, in the case of mountainous terrain or in areas with only secondary roads available, a 15-mile drive) from a hospital or another CAH, or the CAH is certified by the State as being a necessary provider of health care services to residents in the area
  - Length of stay. The CAH provides acute inpatient care for a period that does not exceed, on an annual average basis, 96 hours per patient

§485.620(a) Standard: Number of Beds

- All hospital-type beds located in the CAH will be counted to establish the number of beds.
- The CAH may not have more than 25 beds that **could be** used for inpatient care. Any hospital-type bed located in or adjacent to any location where the bed could be used for inpatient care counts toward the 25 bed limit.

CAH Hospital Beds

- Beds that do not count toward the 25 bed limit are:
  - Examination or procedure tables;
  - Stretchers;
  - Operating room tables
  - Newborn bassinets and isolettes used for well baby boarders;
  - Beds in an obstetric delivery room that are used exclusively for observation of OB patients
  - Stretchers in emergency departments.

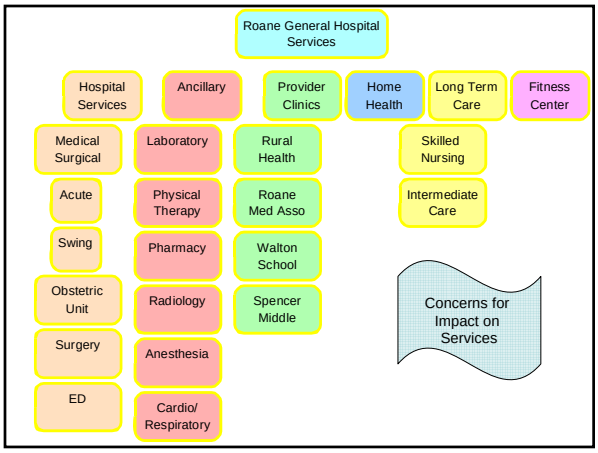
Conflict between bed limits and surge capacity

Even with beds, what about

STAFF?

Staffing Concerns

- Scheduling to match patient load
- FTE cuts
- Nursing shortages
- “Even minor deviations from projected patient loads can create a crunch.”
- Healthcare workers will be also be infected and sick with pandemic flu
- WHO: Few countries have the staff, facilities, equipment, and hospital beds needed to cope with large numbers of people who suddenly fall ill.



Treatment of Patients

- Pharmacy Concerns
  - Vaccine
  - Antiviral Medications
  - Strategic National Stockpile) SNS

Early Recognition & Isolation of Pandemic Flu

- Airborne??
  - **CDC isolation guideline says Droplet with footnote about Airborne (negative pressure) unless "not feasible"**
  - Lessons Learned from SARS
  - New Interim Guideline for Avian flu

CDC Department of Health and Human Services Centers for Disease Control and Prevention

Guideline for Isolation Precautions in Hospitals

Appendix 1, Page 5

Infection/Condition	Type	Duration
Localized in normal patient	S [B]	
Histoplasmosis	S	
HIV (see human immunodeficiency virus)	S	
Hookworm disease (ancylostomiasis, uncinariasis)	S	
Human immunodeficiency virus (HIV) infection [L]	S	
Impetigo	C	U(24 hrs)
Infectious mononucleosis	S	
Influenza	D [B]	DI
Kawasaki syndrome	S	
Lassa fever	C [L]	DI
Legionnaires' disease	S	
Leprosy	S	
Leptospirosis	S	

Old Reference

(n) The "Guideline for Prevention of Nosocomial Pneumonia" (95,96) recommends surveillance, vaccination, antiviral agents, and use of private rooms with negative air pressure as much as feasible for patients for whom influenza is suspected or diagnosed. Many hospitals encounter logistic difficulties and physical plant limitations when admitting multiple patients with suspected influenza during community outbreaks. If sufficient private rooms are unavailable, consider cohorting patients or, at the very least, avoid room sharing with high-risk patients.

New Reference (2003) Healthcare-Associated Pneumonia

- Influenza transmission primarily large droplet
- Airborne transmission suggested "inconclusively"
  - "This route is probably less important than droplet or contact transmission"
- "Any added value of AII (airborne infection isolation) and N95 respirators has not been assessed"

Early Recognition & Isolation of Pandemic Flu

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Lessons Learned from SARS

- Mainly person-to-person and droplet spread
- Airborne spread is “possible”
- Hospitalized SARS Patients
  - Standard, Contact, and AII recommended
  - If AII not available, cohort patients to exclusive floor or nursing unit

Precautions for Avian Influenza

- **CDC Interim Recommendations for Infection Control in Health-Care Facilities Caring for Patients with Known or Suspected Avian Influenza**
- **www.cdc.gov/flu/avian/professional/infect-control.htm**

Precautions for Avian Influenza

Rationale for Enhanced Precautions

- Human influenza is thought to transmit primarily via large respiratory droplets. Standard Precautions plus Droplet Precautions are recommended for the care of patients infected with human influenza. However, given the uncertainty about the exact modes by which avian influenza may first transmit between humans, additional precautions for health-care workers involved in the care of patients with documented or suspected avian influenza may be prudent.

Precautions for Avian Influenza

Patients with a history of travel within 10 days to a country with avian influenza activity and are hospitalized with a severe febrile respiratory illness, or are otherwise under evaluation for avian influenza, should be managed using isolation precautions identical to those recommended for patients with known Severe Acute Respiratory Syndrome (SARS). These include:

Precautions for Avian Influenza

Standard Precautions

Pay careful attention to hand hygiene before and after all patient contact or contact with items potentially contaminated with respiratory secretions.

Contact Precautions

Use gloves and gown for all patient contact.

Use dedicated equipment such as stethoscopes, disposable blood pressure cuffs, disposable thermometers, etc.

Eye protection (i.e., goggles or face shields)

Wear when within 3 feet of the patient.

PPE!

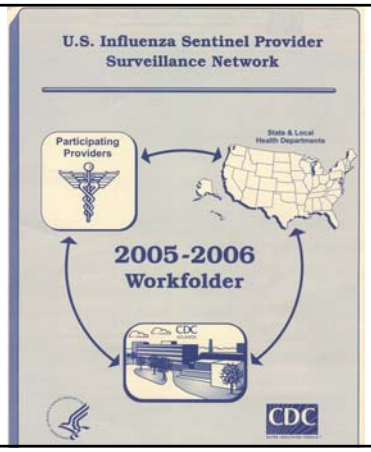
Airborne Precautions

Place the patient in an airborne isolation room (AIR). Such rooms should have monitored negative air pressure in relation to corridor, with 6 to 12 air changes per hour (ACH), and exhaust air directly outside or have recirculated air filtered by a high efficiency particulate air (HEPA) filter. If an AIR is unavailable, contact the health-care facility engineer to assist or use portable HEPA filters (see Environmental Infection Control Guidelines) to augment the number of ACH.

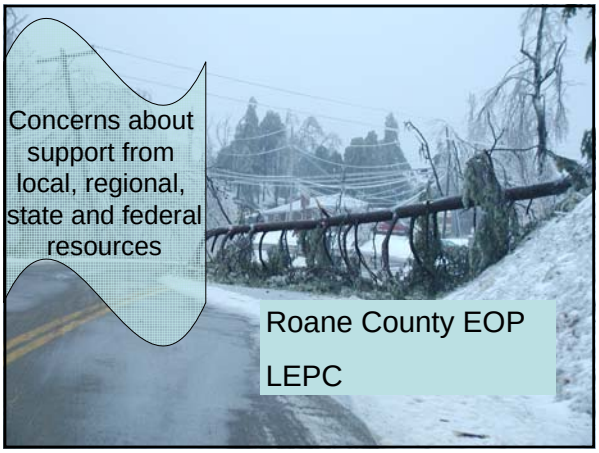
Use a fit-tested respirator, at least as protective as a National Institute of Occupational Safety and Health (NIOSH)-approved N-95 filtering facepiece (i.e., disposable) respirator, when entering the room.

Precautions for Avian Influenza

- These precautions should be continued for 14 days after onset of symptoms or until either an alternative diagnosis is established or diagnostic test results indicate that the patient is not infected with influenza A virus. Patients managed as outpatients or hospitalized patients discharged before 14 days with suspected avian influenza should be isolated in the home setting on the basis of principles outlined for the home isolation of SARS patients (see http://www.cdc.gov/ncidod/sars/guidance/i/pdf/i.pdf).



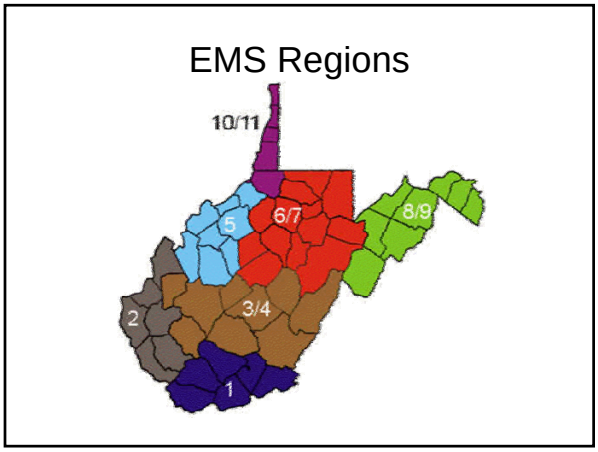
Surveillance



Concerns about support from local, regional, state and federal resources

Roane County EOP

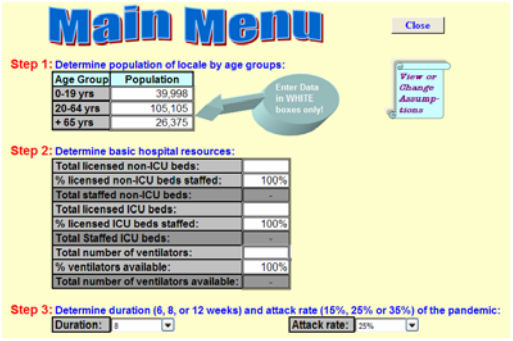
LEPC

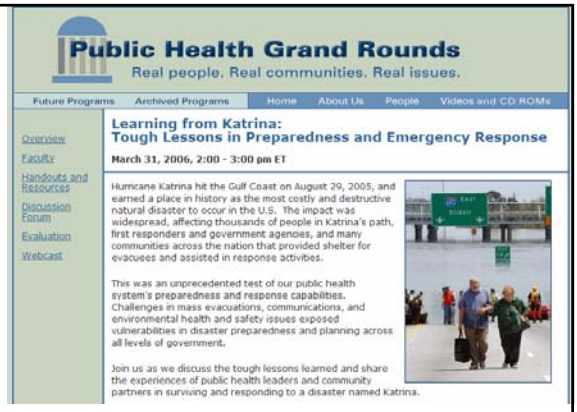


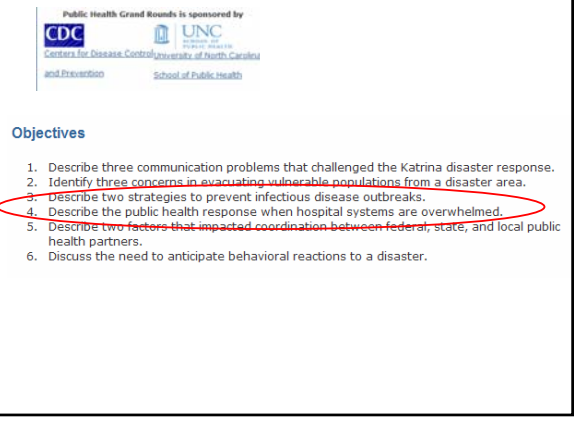
WestCom

Medical Command Centers	
Region 1	Regional Medical Command Center Beckley, WV
Region 2	Huntington Medical Command Center Cabell Huntington Hospital Huntington, WV
Region 3/4	Med Base Charleston, WV
Region 5	WestCom Parkersburg, WV
Region 6/7, 8/9,10/11	WV Medical Command Morgantown, WV

FluSurge for Region 5







DHHS Plan for Pandemic Flu

- Key elements of these plans include surveillance, infection control, use of antiviral medications, community containment measures, vaccination procedures, communications, and ability to sustain essential services in times of widespread illness.

DHHS Plan for Pandemic Flu

- CDC also will take the lead in working with the Advisory Committee on Immunization Practices and the National Vaccine Advisory Committee to prioritize recommended target groups for use of antiviral medications and vaccines during a pandemic when supplies are limited.

Recent Funding

As part of the FY06 Department of Defense budget, Congress included $3.8 billion to enhance pandemic preparedness and provide important resources for upgrading state and local public health activities with respect to pandemic flu surveillance and containment strategies.

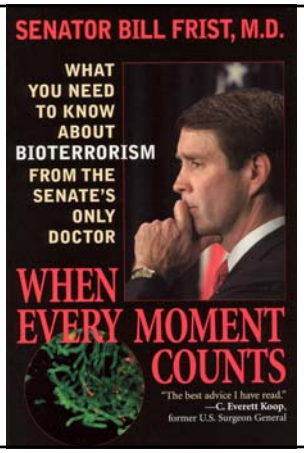
Hospital Concerns Related to Pandemic Influenza

- Hospital Beds
- Staffing
  - Patient surge
  - Sick staff
- Isolation
  - PPE
  - Negative Pressure
- Surveillance
  - Early warning
- Pharmacy
  - Antiviral medications
  - Vaccine
- Surge Capacity
- Support
  - Local
  - Regional
  - State
  - Federal

CURRENT WHO PHASE of PANDEMIC ALERT

Inter-pandemic phase	Low risk of human cases	1
New virus in animals, no human cases	Higher risk of human cases	2
Pandemic alert	No or very limited human-to-human transmission	3
New virus causes human cases	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

March 2002



Michael Osterholm

From Nature/Vol. 435/26 May 2005

Time is running out to prepare for the next pandemic. There is a critical need for comprehensive medical and non-medical pandemic planning at the ground level (involving many in the private sector), that goes beyond what has been considered so far.

National, regional or local plans based on general statements of intent or action will be meaningless in the face of a pandemic.

Specific operating blueprints to get through 12 to 36 months of a pandemic are essential. For example, determining how food might be supplied to local populations when transportation and food- processing plants shut down will require a level of planning not yet included in any national or regional plans.

CDC Pandemic Flu Planning

- Comparing the onset and spread of the next pandemic to those of the 20th century is problematic for many reasons, including changes in population and social structures, medical and technological advances, and the increase in international travel.

Dr. Julie Gerberding

“Hospital’s Full-Up”: The 1918 Influenza Pandemic

Despite 80 (plus) years of medical advances and expansive growth in the health care industry, there remains great uncertainty about our capacity to respond to an infectious disease emergency.

Monica Schoch-Spana, PhD