Pandemic – What you need to know

What is the pandemic threat everyone is talking about?

First some key terms:

Epidemic – is a classification of a disease that appears as new cases in a given human population, during a given period, occur at a rate that substantially exceeds what is "expected," based on recent experience.

Pandemic - is an epidemic that spreads through human populations across a large region or goes worldwide.

Has this happened before? Yes – in 1957, 1968, 1977 and in 1918 (Spanish flu.)

- Past pandemic influenza outbreaks have left pretty large impacts – from thousands of deaths to millions of deaths.
- The current threat stems from a concern that the World Health Organization and the US CDC have about the H5N1 avian influenza virus.
- This virus has been seen in outbreaks in Southeast Asia and has the potential to become pandemic.
- It is at least as deadly as the 1918 Pandemic that killed 100,000,000 worldwide – and 550,000 Americans in ten months.
- That is more people than died in combat in all the wars of the last century.
- H5N1 may be even more deadly.

Why?

1. There is no human immunity to this bird virus.
2. There is no treatment that is certain to be effective.
3. There is no vaccine.
4. Development of a vaccine will likely take six months once the particular mutant of the virus is identified as the cause of the pandemic.
5. If it is like the 1918 virus – which is it is similar to – it will cause increased mortality in young adults – read firefighters, police, healthcare workers, soldiers.
6. There will likely be simultaneous outbreaks – one jurisdiction will not be able to help another.
7. Surge capacity of our healthcare system will be overwhelmed.
8. It will cause shortages and delays in delivery of everything from medical supplies to food.

9. There may be disruption of national and community infrastructures, transportation, commerce, utilities and public safety.

Why does WHO/CDC think H5N1 is the one?

It has met two out of three criteria for becoming pandemic:

1. A new flu virus must emerge from animal reservoirs that have in the past produced and harbored such viruses – one that has not infected humans before – and to which, therefore, no one is immune.
2. The virus has to actually make people sick. (Most animal viruses don't.)
3. It must be able to spread effectively – through coughing, sneezing, touch.

H5N1 has met #1 and #2. It has a >60% kill rate. It has been transmitted from birds to other animals and birds to humans. It has infected people. It has killed about 6-7 out of every 10 persons who have acquired it. It has been transmitted from human to human (it has not done it casually or easily, but it has done it.) The virus has been studied by WHO scientists who have detected that it is mutating and adapting in ways that may increase its fulfillment of criteria #3.

What should you do?

1. Know who will be in charge if there is a pandemic – this will be the Kentucky Department of Health and Environment in conjunction with the Governor. Your local Health Department will be the entity in charge in your area.
2. Have a plan to address how your organization will address the pandemic and the issues and problems it causes. (See Issues and Problems below.)
3. Educate your staff about the issue.
4. If it happens, execute your plan.

Issues and problems:

- Nursing homes, hospitals and other healthcare facilities must have plans in place and coordinate their plans with other organizations in the community. Plans should include involving staff from multiple disciplines and designating key staff roles in the event of pandemic (and backup persons.) You need a plan for many reasons – preparedness is first but legal sessions are already outlining that having a well-thought-out plan may limit liability claims after the event.)

- There will be healthcare worker shortages – with so many people sick, there will just not be enough people available to care for all the sick persons.

- Healthcare workers will themselves become sick; they will have sick families, they may have children who have been sent home as schools close to inhibit the spread of disease – this may cut your workforce 30-40%. Kentucky will be very cautious about closing schools due to the ripple effect on the economy and infrastructure -- and the limited infection control benefits anticipated in school closings.

- Healthcare workers may be diverted from your nursing home to work at the hospital.

- Hospitals may run out of space and the US DHHS/State Health Dept. may require nursing homes to accept patients that hospitals cannot house.

- There will be shortages of antiviral drugs. These may or may not work in any event – but there will only be enough for about 25% of first responders. In Kentucky, no one will receive anti-virals unless he/she is sick. They will not be used as preventatives.

- There will be a 5-6 month period before any vaccine is available once the actual pandemic virus is identified. Who gets the vaccine when and if it is available? In Kentucky, it will go to first responders first. Nursing home residents are at the bottom of the priority list.

- H5N1 impacts the young with good immune systems hardest – and second hardest - the elderly with compromised immune systems. The young (under 45 years of age) are expected to experience a "cytokine storm" – an over-reaction of the immune system that involves the lungs and causes lung failure and death. The old with compromised immune systems might survive – not likely – but could – but may then succumb to secondary bacterial or viral pneumonia.

- The best plans for dealing with the pandemic involve infection control and social distancing. This may require isolating the facility from visitors, curtailing outings and group events, allowing workers to work from home if feasible, acquiring extra supplies, etc. In short, trying to keep the disease out and waiting for the vaccine and/or effective treatments to be developed – or for the three waves (over about a year) of the pandemic to occur and fade away.