



# Hospitals Unprepared for Pandemic Surge

**Severe Pandemic Could Double Need for Beds, Quadruple Need for Intensive Care**

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**Feb. 5, 2007** — - At the recent gathering of many of the world's top influenza experts in Washington D.C., projections outlining how hospitals would deal with a pandemic event were easy to find.

Optimists, however, were in shorter supply.

"We need double the floor space, double the physical space," said one presenter at a poster session of the Seasonal and Pandemic Influenza conference. "It's just not gonna happen."

Another expert nearby presented her poster on possible triage strategies.

"We'll need a more effective triage system to determine who gets the care and who's too far along," she said.

Computerized training simulators. Strategies to discharge patients quickly and use hallways for bed space. All are approaches are designed to deal with what those in attendance at the meeting called a "surge" -- the increase in people needing hospitalization in the wake of a flu pandemic.

But if an influenza pandemic were to begin tomorrow, the country's hospital beds would soon be filled to capacity.

It is a projection that would surprise few public health experts. But data presented at the meeting paints a sobering picture of how profound and overwhelming the surge could be.

"It is the big unaddressed issue, and we're only beginning to talk about how to provide care to people," said Jeffrey Levi, executive director of the Trust for America's Health. "We need to be talking about this."

"Of all the things that keep you awake at night, this is the one that does the most," said Dr. Allen Craig, director of communicable and environmental disease services at the Tennessee Department of Health.

"We don't have this capacity now, and frankly it's going to be very hard for us to come up with it in a pandemic situation."

## **Surge Would Strain Facilities, Staff**

Dr. Eric Toner, senior associate at the Center for Biosecurity at the University of Pittsburgh Medical Center, conducted a study last year to determine the capacity of the nation's hospitals to accommodate a pandemic surge.

"In a moderate scenario, an additional 19 percent of non-ICU beds, 46 percent of ICU beds and 20 percent of ventilators would be in use by flu patients," Toner said. "This is pretty much all of the surge capacity we have in most hospitals, so if we're lucky and it's a mild pandemic, we will be stretched to our limit."

But these limits would quickly snap in the face of a major pandemic.

"If we have something like the 1918 pandemic, we're in big trouble," he said.

In this situation, a hospital would need to double the number of non-ICU beds just to deal with the flu patients -- and that is if every other patient was discharged.

The need for beds in intensive care units would quadruple, and twice the number of mechanical ventilators would be needed.

For many hospitals, this type of increase in demand would force difficult decisions. Bartlett said that his medical center currently runs at about 95 percent occupancy.

"If we had to double the number of beds, many of the patients that are there now would have to be relocated," he said.

Dr. Richard Lee, professor of medicine at the State University of New York at Buffalo, said of one of the hospitals he works with, "We have 200 to 300 beds there, so we'll run out of beds pretty quick."

The situation at individual hospitals calls for an adjustment of the role of these facilities when it comes to this type of emergency.

"Clearly when planning for this, we are no longer talking about surge capacity," Toner said. "Rather, I believe we are talking about surge strategies or capabilities."

More often than not, these strategies would involve keeping many patients out of hospitals altogether -- not only to make the most of scarce resources, but also to keep additional patients from getting sick.

"Hospitals are not designed necessarily to reduce contagiousness," said Dr. John Bartlett, chief of the division of infectious diseases at Johns Hopkins University School of Medicine. "And in SARS and other epidemics they are infectious disease amplifiers."

### **A Pandemic Scenario: New York City**

Dr. Michael Tapper is an epidemiologist and director of the division of infectious diseases at New York City's Lenox Hill Hospital, which has 650 to 700 beds. Tapper says that the capacity of his hospital would be quickly outstripped in the event of a pandemic infection.

But the bigger problem, he says, is that the same thing would be happening all around the city. And densely populated areas like New York could bear the brunt of the patient surge problem.

"New York City has done a survey and surge capacity, and in the city, our surge capacity is very low because most of our beds are fully occupied most of the time," Tapper said.

He added that the shortage of hospital space would not be the only problem. Rather, finding the staff

necessary to treat patients would present a special challenge. He said this includes nurses, who are already in short supply, and respiratory therapists.

Bartlett said conditions created by the flu itself could further intensify the strain on the available workforce.

"Thirty percent of the health care workers in a given hospital will be out with the flu," he said. "Others will have kids to take care of because of school closures."

In order to take the strain off of medical facilities, non-traditional clinics could be set up in schools, civic centers and other public buildings. But in all likelihood, these temporary facilities would not provide medical care -- only food, water and a place for New York's displaced patients to sleep.

### **Preparing for a 'Diminished Standard of Care'**

In the surge scenario described above, it is easy to see how those seeking medical care would likely have to accept what infectious disease experts call a "diminished standard of care."

This would involve triage and rationing of service and supplies in order to milk the full potential of every resource.

And it could mean that the role of hospitals could be shifted away from saving every patient, and toward leveraging resources to save those patients who can still be saved.

Bartlett said this could be a difficult notion for the public at large to swallow. But he added that absent a major preparation effort, such a situation may present itself if a major pandemic strikes.

"Nobody can deal with the surge thing," he said. "It's beyond reach, I think."

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