

Flu Pandemic Prep

With the possibility of a deadly flu pandemic-today's worry being avian flu-good planning may be the best medicine. Is your school prepared?

By Ron Schachter

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The prospect of an avian flu epidemic in the near future makes most disaster films pale in comparison. As a newly mutated form of the H5N1 virus spreads rapidly from human to human, public transportation comes to a sudden stop, public events are canceled, and public schools-and many workplaces-shut down.



Within weeks, the ill overwhelm any medical facilities within reach, while others become prisoners in their homes and watch the 24-hour TV coverage, as officials plead for calm and health experts warn of the high mortality rate and the millions who could die worldwide in a matter of months. Those predictions begin to come true, as emptied schools and commercial buildings turn into makeshift morgues.

Now, the avian flu has not yet mutated into a form that spreads easily among humans. No pandemic is imminent, and the nightly news has been covering the concern but not consistently. Yet a growing number of colleges and universities are taking the threat of a "bird flu" pandemic seriously, writing their own scripts about what it could mean to them, and getting ready in ways they have never before had to consider.

Whether the bird flu strikes or not, college and university officials say that the preparations they are making will serve them well. "I think our plan would be very adaptable if there were similar kinds of crises," says Jim Osteen, assistant vice president for Student Affairs at the University of Maryland, which completed its own plan last June.

Getting a Head Start

Some schools, including the University of Minnesota, Twin Cities, have emerged as leaders in anticipating the avian flu in human form. "Pandemic influenza has been on our radar screen for a long time," says Jill DeBoer, the director of the Office of Emergency Response at the university's Academic Health Center.

Besides building a detailed plan around 10 main areas of concern-from vaccine distribution to student housing and health care, to contact with public health departments (see page 43)-DeBoer and her colleagues on a special planning committee have run simulations of a flu outbreak on campus and built a comprehensive website. They regularly share ideas with other Big Ten institutions, too.



At other institutions, facing the possibilities of a flu pandemic has taken longer. "At first, I thought planning for the avian flu was farfetched," admits Maryland's Osteen. "I was not enthusiastic about coming to the table. But over the course of preparing, I've changed my mind. If the flu becomes as bad as it was in 1918, we want to be ready."

The "Spanish Flu" of 1918 is estimated to have killed more than 50 million people worldwide and was particularly virulent in young adults. Incidentally, the 1918 outbreak had its origins in an avian strain. The historical facts caught the attention of John Sheffield, the director of Safety and Risk Management at the University of Richmond (Va.). "I began to research the 1918 flu, and the more I learned, the more I became concerned," he says. His university formed its planning committee in January 2006.

When it comes to assembling planning committees, these officials agree, the more representatives from the school community, the better. "A pandemic would impact every aspect of a college or university," Sheffield explains. At Richmond, everyone from the director of campus police and the vice president of facilities to the VPs of information technology and business has joined the planning process.

"We thought we could get a few people to write a plan," says Osteen, who adds that the committee at Maryland quickly grew to more than two dozen members. "Having them all at the table while less efficient-helped us get a better product," he insists.

Lessons from the Past

As schools try to find the answers to the questions of what precautions to take, when to cancel classes and close down, how to treat the sick and house the well, and how to stay in business during an extended epidemic, past medical crises offer only limited guidance.

During the SARS outbreak several years ago in Asia and in Canada, Maryland's Osteen recalls, people entering the school's health center were asked to put on protective masks if they had traveled to those locations. And Sheffield recalls a meningitis scare earlier this decade during which people avoided public events on the University of Richmond campus and some parents even summoned their children home. "The big lesson that we learned is that we would have a big fear factor to deal with," he says.

While the University of Minnesota beefed up its emergency planning in the aftermath of 9/11, past practices have been able to only go so far, says DeBoer. "It's really important for us to raise the unique issues, which include an event of long duration that may happen everywhere at once and for which we can't count on neighbors helping," she cautions.

The Trigger Point

One of the most vexing issues to administrators is choosing a trigger point to put any emergency plan into action. Many-including the University of Maryland-may take action when the World Health Organization confirms human-to-human transmission of the virus among localized clusters of people anywhere in the world. "We would want to err on the side of beating the panic rather than getting caught in the middle," says Osteen, who would begin issuing alerts to the university community.

With the confirmation of a North American case, the university would cancel classes. Over the next three to four days, the campus would be evacuated and closed down, a process facilitated by Maryland's largely in-state and regional student population, who could return home without much problem.

"One of the triggers we're looking at is any case discovered at an international airport in a major American city," says Anita Barkin of Carnegie Mellon University (Pa.), who also chairs the pandemic planning task force for the American College Health Association. Barkin, who is director of Student Health Services at CMU, agrees that getting ahead of any general outbreak could prove critical.

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"I think it could sneak up on us," Barkin warns. "How do you monitor the travel of every faculty and staff member as well as every student? They could get the virus on a plane and be shedding that virus before showing any symptoms. And once you have an attack rate of 1 percent, any public health strategy loses effectiveness."

Barkin, Osteen, and other planners predict considerable pressures to stay open if there are only isolated cases reported in distant places, and they say that decision-makers will find themselves in a dilemma. "It's sort of like canceling classes for a snowstorm," suggests Jo Williams, who has been leading the planning process at Nichols College (Mass.). "You're damned if you do, and damned if you don't."

And it's not out of the question, Osteen theorizes, that the first case in the region or local area could occur on campus. "We could end up being told not to move anybody," he says.

Tending the Sick, Housing the Well

Maryland's plan to evacuate its 33,000 students represents a change of course, Osteen continues. "We started by thinking, 'How can we batten down the hatches and ride out an epidemic?' But why help bring people together when some are contagious?" Even so, Maryland is expecting hardship cases for which the university health center could be converted into a temporary infirmary with 40 beds. A series of university apartments could house the healthy left behind.

Other schools cannot depend on sending virtually all students home. Of the 3,500 enrolled at the University of Richmond, almost 200 come from foreign countries and another 10 percent may live too far away in the United States to make it home if the transportation system fails or authorities impose travel restrictions.

"If we eliminate anyone in the Eastern and Central time zones, we're still left with 800 students," calculates Carnegie Mellon's Barkin. Even a state school like the University of Minnesota could be left with 400 to 600 stranded students.

And at Boston University, with 29,000 students, as many as 4,000 may have to remain behind because of travel restrictions, estimates Peter Schneider, the executive director of the Office of Environmental Health and Safety. A new sports arena on campus could hold large numbers of cots, he adds, although a 1,600-room dormitory complex might work better to isolate or quarantine people.

Complicating the picture are the unknowns of a mutated H5N1 virus. "The question is," asks Barkin, "will it be severe like the one in 1918, or milder like the ones in 1957 and 1968?" She is not taking chances and figures that 50 percent of those left on campus will be infected. A third of them would require infirmary level care, Barkin adds, an additional problem in an age of disappearing in-patient facilities on campus. "A lot of schools have closed their infirmaries," she says. "We're talking about reinstating something that went by the wayside a long time ago."

Carnegie Mellon is prepared to make do with a force of five registered nurses, three nurse practitioners, and four physician's assistants, along with doctors from the university's medical center. While they would handle the most severe flu cases, volunteers who have already recovered from the flu-and have antibodies to the virus-could be trained to provide bedside care to the less ill.

The University of Minnesota, meanwhile, has an auxiliary health force already in place. Two years ago the school joined the federal Medical Reserve Corps with a 900-volunteer unit of doctors, nurses, epidemiologists, and pharmacists drawn from its professional schools. The group has already seen action in the Southern states ravaged by hurricanes Katrina and Rita. "We learned a lot from our work in Louisiana, especially the value of interdisciplinary teams," DeBoer says.

Staying in Business

For all their concern about the well-being of students, faculty, and staff, university leaders face the longer range challenge of continuing their educational and business operations. "We're a small, tuition-driven college," says Williams of Nichols College. "We can't just shut down and hand back that tuition."

With that problem in mind, Williams asked the Nichols faculty to come up with their own continuity plan in the event of a pandemic interruption, and to develop several solutions that would work across the board. The full faculty participated in two workshops during this past fall. Among their suggestions: making complete course packets for every class available through the college website; transmitting lectures via podcast; and allowing students flexibility in completing their assignments.

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"There are a lot of really creative professors here," Williams says, "so why not take advantage? They buy into the process and that can make things a lot easier in the long run."

Richmond's Sheffield points to other sides of the business. "If you're closed for months at a time, will laboratory research-and the grants funding it-be able to continue?" he asks. "And then you have to look at who gets paid, the essential employees or everyone. And should the essential employees get paid more?"

Works in Progress

Above all, say these pandemic planners, their efforts are works in progress. "You can't figure everything out at once. You do it in stages," says Boston University's Peter Schneider. And the stages are ever evolving, notes DeBoer, who says her committee at the University of Minnesota is constantly "chipping away at action items. You mark off one, and in the process you find five additional items."

"I know some schools in their 10th, 12th, 15th revisions as new information comes along," adds Richmond's John Sheffield.

Much of that information can come from conducting pandemic simulations. Last March, Carnegie Mellon gathered its key players for a "tabletop" exercise. "We said, 'This is the scenario. What are we going to do?'" Anita Barkin explains. After their initial response, the participants continued to interact at hypothetical five-day intervals, with an eye to testing their planning, coordination, and communication.

"We debrief on what we do well, what we do not so well, and where the gaps are. Then we enhance our emergency plan to address them," says Barkin, who plans a similar drill in several months.



These universities also have begun to educate their students on the possibilities of a flu outbreak and its consequences. Carnegie Mellon distributed a campuswide e-mail announcing that the school was making an emergency plan. At the University of Richmond this past fall, health officials took advantage of the seasonal flu season to put up posters from the federal Centers for Disease Control and Prevention, promoting good cough etiquette to prevent the spread of germs. They also installed eight hand stations around campus to dispense antibacterial hand soap.

Eventually, officials at schools undergoing preparations for a health crisis say they plan to engage students actively in any evacuation plan, asking them to consider in advance how they would leave campus and what they would take with them. Students from across the country or from other countries will have to identify nearby relatives or family friends who could accommodate them. Richmond is promoting a buddy system, so that if some students cannot make it home, they can join a pre-identified fellow student closer by.

Learning from Each Other, and Going It Alone

Along the way, IHEs are working together, sharing best practices and thorny questions. "There are a lot of wheels to be invented. It's great when you don't have to invent them all yourself," says DeBoer. A year ago, Minnesota hosted a web conference for its fellow Big Ten universities, in which a representative from each school shared the main points of its emergency plan so far.

Boston University and neighboring institutions Harvard and MIT exchange information regularly. After BU prepared its blueprint for a campuswide evacuation, it shared the results. When one of the other schools investigated the use of MRE rations (the self-heating "Meals Ready to Eat" used during military campaigns), it reported back with its findings.

Still, cautions Maryland's Osteen, "no one has a boiler-plate plan of what you can do. Quite frankly, we have been carving out our own plan and what makes the most sense for us."

Resources

American College Health Association resources page, www.acha.org/info_resources/pandemic_flu.cfm
Centers for Disease Control and Prevention, www.cdc.gov/flu/avian
U.S. Department of Health and Human Services Checklist for Colleges and Universities, www.pandemicflu.gov/plan/school/collegeschecklist.html
World Health Organization, www.who.int/csr/disease/avian_influenza/pandemic/en
University of Minnesota Office of Emergency Response, www.ahc.umn.edu/about/admin/oer/pandemic/home.html

The same goes for following guidelines from the World Health Organization, Centers for Disease Control, and her own American College Health Association, admits Barkin. "There's not a ready-made plan," she says. "There are models, resources, and checklists. But your plan really has to fit your demographics."

"If you can depend only so much on the emergency plans of others in the event of a pandemic, you can expect even less from federal, state, and local government," DeBoer warns. "The principle that an area in need gets help from other jurisdictions works very well with a localized disaster. But the neighbor-helping-neighbor model may not work in this case."

That message came through loud and clear in a statewide meeting of Virginia colleges hosted by the University of Richmond last fall. "We were told, 'You're going to have to ride this out without any assistance from government agencies,'" Sheffield reports.

"Folks may not be happy with the government's saying that local communities need to take care of themselves," says Barkin. "But that's better than making promises on which they can't deliver."

And in the cases of the University of Minnesota (with its Medical Reserve Corps) and Boston University (with its location in the heart of the city), emergency planners say that the local authorities may actually come to them for help in housing and treating hardship cases.

Catching Up

Not all schools are up to speed, or even in a forward gear, though. "As I travel around, I'm surprised by the number of schools who are just getting started or thinking of getting started," says Barkin. "What I'm hearing is that there are too many unknowns. It's a lot of work, and it's hard to find the time and resources with so many other responsibilities. It's also daunting, and people don't have a lot of experience planning on this kind of scale. I tell them, 'This process can look very overwhelming, and it is. But break it up into small parts and chip away at them.' "

Sheffield was surprised at how few Virginia schools attending that fall conference had started any preparations, and he offers his own advice: "When they say, 'This is like the Y2K scare (when it was predicted that computer systems around the world would shut down),' I tell them that their planning is not going to be in vain, and that their efforts can go along way towards other emergencies."

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Stocking Up

One aspect of health crisis preparation is the need to increase stocks of food and bottled water-as well as flu medications-for use during an extended siege. "Right now we have a 'just-in-time' delivery system," says Peter Schneider of Boston University's Office of Environmental Health and Safety. "That won't work." Some advice for what may work:

- Consider stockpiling medicines. Since most health experts agree that an avian flu vaccine would be at least six months in the making after an outbreak begins, the first line of defense would consist of the antiviral drug Tamiflu. "Whether the human-to-human form of the virus would be susceptible to Tamiflu is anyone's guess," notes Anita Barkin, director of Student Health Services at Carnegie Mellon (Pa.). It's a pricey proposition, she points out, since each dose costs \$96 and has a relatively short shelf life.
- Don't forget about supplies. Institutions are already stocking up on surgical masks and higher-grade N-95 masks.
- Investigate off-campus storage options. "If we're looking at six to 10 weeks, we do not have sufficient space to store that type of food," adds John Sheffield, who directs safety and risk management efforts at the University of Richmond. He is considering off-campus storage, with an emphasis on foods that will not go to waste in the absence of a pandemic.

University of Minnesota's Priority List

A committee at the University of Minnesota, Twin Cities built a plan for an avian flu strike covering these areas of concern:

1. International Travel
2. Targeted Vaccine Distribution
3. Essential Personnel, Operations, and Services
4. Surveillance and Case Investigation
5. Health Care Needs
6. Student Housing Needs
7. Communications
8. Internal Coordination
9. External Coordination
10. Providing Service to the Broader Community