INFECTIOUS DISEASES

# IOM Weighs in on Microbial Threat

VOAV LEVY/PHOTOTAKE

**Treating a TB patient.** Is this a harbinger of things to come?

Earlier this month, the Centers for Disease Control (CDC) announced that a man in Tucson, Arizona, had died of pneumonic plague, apparently after being infected with the disease by a cat during a trip to Colorado. He was the first person to die of this type of plague in the United States in 5 years. Although plague is unlikely to make a big comeback in this country, this incident, like the recent resurgence of tuberculosis and measles (see page 546), is one more sobering reminder that infectious diseases once thought to be firmly under control cannot be written off. And that message was underscored in a report issued last week by a panel of the Institute of Medicine (IOM),* which warned of a general "mood of complacency" in the scientific community toward the dangers of emerging infectious diseases.

The bulk of the panel's recommendations are directed at the CDC, which the report calls on to beef up both its U.S. and international disease surveillance. The goal: to identify new diseases or resistant pathogens early on so that health officials can develop new vaccines or antimicrobial drugs before an infection races out of control.

While the United States casts a big net for catching outbreaks of infectious disease, the net does have holes, the report warns. State and local health officials voluntarily report many diseases to the CDC, but they are required to report only diseases that need quarantine, such as plague and tuberculosis. As a result, the IOM committee contends, cases of Lyme disease and other illnesses get "significantly underreported" and many other infectious diseases not on CDC's list "may go undetected or may be detected only after an outbreak is well under way."

To combat this, the report calls for the CDC to put together a task force of specialists in disease surveillance, modeled after the CDC's task force on multidrug resistant tuberculosis. In addition, it recommends that the CDC expand its Epidemic Intelligence Service, a program that trains about 70 health professionals a year in public health epidemiology, and its Field Epidemiology Training Program, which sends U.S. epidemiologists overseas to help train foreign scientists.

CDC officials agree that there's room for improvement—especially in the international arena, where budget concerns in the past two decades have closed several U.S. surveillance facilities. But even closer to home, tight budgets are "forcing some states to scale back their surveillance activities," says Stephen Thacker, director of the CDC's epidemiology program office. Public health programs in New Jersey and Wisconsin, for example, have been particularly hard hit by budget cuts, one state epidemiologist told *Science*. "The impact might be very dramatic if people aren't able to detect unusual strains"—and this might result in delays in detecting epidemics, Thacker contends.

But even if improved surveillance turns up an emerging infectious disease, the report warns that the medical community may not have the means to combat it quickly. What's needed are better strategies for vaccine and drug development, says Rockefeller University's Joshua Lederberg, who cochaired the IOM panel. The report recommends that the federal government stockpile "selected" vaccines, say for influenza and yellow fever, and develop a "surge capacity" for vaccine development in which the government provides purchase guarantees—analogous to farm commodity loans—to vaccine manufacturers so that they wouldn't lose money if they make more of a vaccine than needed. Those measures would cost pennies compared to treating the victims of an epidemic. "A highly virulent influenza epidemic is really in the cards," says Lederberg, who is worried about a reprise of the 1918 influenza outbreak that killed 20 million people worldwide. "And that kind of circumstance we aren't prepared for at all."

**–Richard Stone**

*"Emerging Infections: Microbial Threats to Health in the United States," Institute of Medicine, 1992.

NASA

# Shakeup Splits Space Science

Daniel Goldin, chief of the National Aeronautics and Space Administration (NASA), last week decided to clear the agency's decks in a major personnel shakeup that took everyone—including top officials who were given new assignments—by surprise. None of those affected had more than 2 hours' notice, according to a top agency official. A press release describes the overhaul as an effort to "focus NASA's programs," but insiders see it as an attempt by Goldin to put his own stamp on the agency and perhaps give momentum to his management agenda (*Science*, 2 October, p. 20). NASA staffers say they expect the aftershocks to continue for another 2 weeks with additional staff and office changes.

The biggest move in Goldin's restructuring is a decision to split the $3 billion-a-year science function—known as the Office of Space Science and Applications—into two offices. One of the splinters will be called the Mission to Planet Earth, and it will embrace all the earth sciences and the $8 billion Earth Observing System. Shelby Tilford, former director of earth sciences, will serve as acting director. The other piece will be called the Office of Planetary Science and Astrophysics, and its acting director will be Wes Huntress, former director of planetary science and astrophysics. That leaves Lennard Fisk, who has been in charge of NASA's entire science program, with no clearly defined role. According to Goldin's statement, Fisk has been promoted to chief scientist of the agency. He will be "responsible for forging a strong bond with the directors of research and development in corporate America to ensure NASA is getting the very best technology in all our science missions," Goldin says, and he will help promote NASA's science to the public.

Among others being elevated to uncertain roles are Thomas Campbell, formerly NASA's comptroller, now chief financial officer for the space station, and Martin Kress, formerly in charge of congressional relations, who has been named deputy program manager for policy and management in the space station office.

The shakeup, says John Pike of the Federation of American Scientists, raises almost as many questions as it answers. Two issues that remain unresolved are: What will become of the life science program, and where will microgravity research go? The answers, according to NASA spokesman Michael Braukus, have "yet to be determined."

One thing is clear however, according to several top NASA officials who spoke with *Science* on condition of anonymity: Morale among staffers at headquarters is at rock bottom. "It's worse now than it was after the Challenger [shuttle accident]," says a headquarters division chief.

**–Eliot Marshall**