

# Health Network Spies for Epidemics, Bioterror

BY MARK BLOOM  
Contributing writer

Every 15 minutes, every day, around the clock, every tidbit of medical and health news from thousands of the world's newspapers streams by computer into a small room at the Canadian Centre for Emergency Preparedness and Response. There, seven analysts sift the most relevant of the fresh articles in a ceaseless hunt for hints of a newly emerging disease epidemic or the subtle signs of a spreading bioterror attack.

The analysts work a standard 8-hour day, but the worldwide computer network that brings articles from 10,000 public news sources into the nerve center of the Global Public Health Intelligence Network (GPHIN) is ever on the alert. It scans the Web's news sites every 15 minutes, seeking suggestions of an outbreak of SARS or avian influenza in Asia, a sign of Ebola in Africa or anthrax in Florida, or an indication of excessive radiation anywhere. It looks for the barest hints in the news stories of an illness no one has ever seen before. It looks for a disease that is known but pops up for the first time in a continent where it is unknown—much

**The GPHIN II network scans 10,000 Web sites, and articles not discarded immediately are reviewed by a language analyst for public health implications.**

like the West Nile virus's appearance in North America. Most of the reports are trashed by the computer out of hand. A relatively small percentage stay on the system for human analysis. But once or twice a day, the computer spots something so ominous or so important, in the view of the automated program, that it generates an alert and automatically sends it by e-mail to the World Health Organization and other GPHIN users, said Peter Uhthoff, M.D., in an interview. He is chief of counterterrorism coordination and health information networks for the Public Health Agency of Canada. GPHIN is one of his networks.

Automatic alerts have usually involved infectious disease but have also focused on chemical spills and radionuclear accidents. As for bioterrorism, Dr. Uhthoff added, "our purpose is to give an advance notice, as early as possible, and get the information as soon as possible to our users. The sooner they know, the better. Whether it is bioterrorism or an accidental nuclear event, it makes little difference, because the initial stages of reaction are the same."

GPHIN was inaugurated in 1998 to screen the English-language newspaper literature. A week before the U.S. Thanksgiving last year, that changed. Now GPHIN has been relaunched as GPHIN II, and it includes several of the world's major languages. So instead of just English-language newspapers, the nerve center is also sifting reports in Arabic, French, Russian, Spanish, and both simplified and tra-

ditional Chinese. Each language has an analyst fluent in the language and familiar with public health issues.

The GPHIN II upgrade was funded with \$560,000 Canadian by the Nuclear Threat Initiative, a Washington-based group founded by Sam Nunn, the former U.S. senator, and Ted Turner. It is dedicated to reducing the worldwide threat of nuclear, biological, and chemical weapons.

The articles that are not trashed immediately or that don't merit an automatic e-

mail are the ones that need to be reviewed by a language analyst for public health implications. The analyst also edits the computer's translation to English, going back to the source language if necessary; each sees about 200 articles a day, Dr. Uhthoff said.

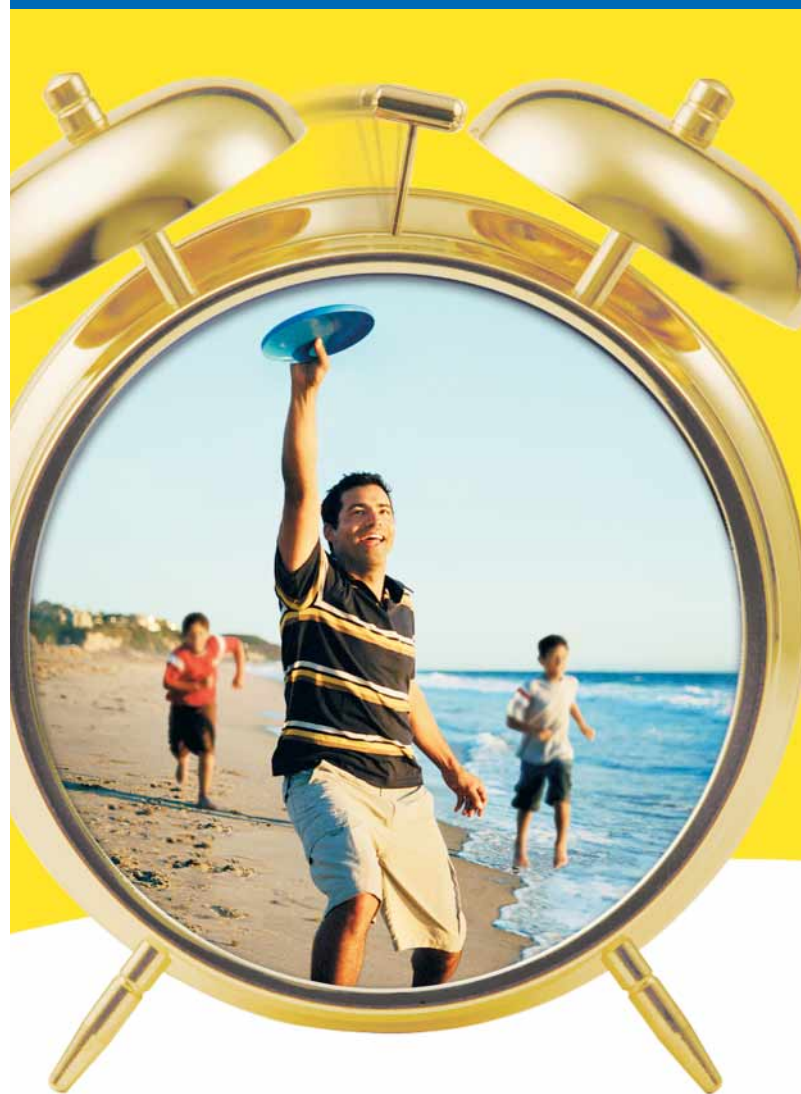
Articles that pass muster are retained after editing on the GPHIN system and passed on to the GPHIN subscribers, such as the WHO and the U.S. Centers for Disease Control and Prevention.

Some reports might be of local interest

with national implications; the arrival of West Nile virus in New York City would have been such a story. Others could have global implications, such as a worsening or spread of the avian flu outbreak in Asia.

Reports with immediate patient implications in the United States are relayed to physicians in the standard way, by state public health authorities. With its active surveillance, GPHIN II allows those authorities to rapidly connect the dots of isolated incidents in an outbreak. ■

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