

Region has 'radar' for outbreaks

BY JAN JARVIS
STAR-TELEGRAM STAFF WRITER

More cough medicine than usual flew off the shelves of area pharmacies Feb. 5. Hospital emergency rooms were packed, mostly with children 4 and younger.

Healthwise, it was the worst day of the year in North Texas.

By using a computer surveillance system, Dr. Elvin Adams knew that the flu season had peaked. The Tarrant County Public Health medical director can track everything from rashes to coughs, because hundreds of healthcare providers in Dallas-Fort Worth relay information to the health department.

This system is believed to be the most comprehensive of its type in the country. Officials hope it can quickly spot signs of an outbreak so they can prevent the spread of a major illness.

"It's almost like an early warning radar system for infectious disease outbreaks," said William Stephens, manager of the Southwest Center for Advanced Public Health Practice at Tarrant County Public Health. "It detects a problem before 20,000 people are sick."

The syndromic surveillance system is a feature of the Advanced Practice Center (APC), which was created to prepare the area for a major public health emergency. Tarrant County is one of eight Advanced Practice Centers in the country.

The surveillance started with a few hospitals in 2003; today, about 300 pharmacies and 50 hospitals in Dallas-Fort Worth participate. Over the next year, some 100 doctors in 30 offices and MedStar, the emergency medical service, are also expected to come online. Elementary and secondary school nurses report absenteeism because, if an epidemic were to occur, it would likely show up at school first, Adams said.

"If we had 30 percent absenteeism, then we would know we had an epidemic," he said.

As fast as a hospital worker can record a patient's age, sex, medical complaint and ZIP code, the information is whisked to the health department. Software can also collect data from lab results and X-rays for diagnosis rather than rely only on the patient's complaint.

It might raise fears that Big Brother is taking notes on every sniffle and sneeze, but the health department is committed to protecting people's privacy.



STAR-TELEGRAM / MAX FAULKNER

By using a computer surveillance system, Dr. Elvin Adams knew the flu season had peaked on Feb. 5.



[Under observation](#)

"We don't know their race, their ethnicity, their name or their address," Adams emphasized.

That is, unless someone is suffering from smallpox, anthrax or other disease that could be the result of bioterrorism. Then Adams has the authority to collect whatever information is needed to protect public health.

Community snapshot

The first sign of an outbreak is typically a spike in over-the-counter drug sales. If an ambulance is called, medics can collect data en route and send it to the health department before the patient reaches the emergency room.

Hospitals are not allowed to access information about competitors, but they can use the system to view a snapshot of community health issues.

If stomach bugs show up at the emergency room of Baylor University Medical Center in Dallas, Allen Peden, an infection control practitioner, can log on in the middle of the night and find real-time information on similar complaints in the area.

"It picked up the flu pretty early and mirrored exactly what we were seeing in our ER," Peden said.

On Feb. 5, when 457 people with coughs showed up at area emergency rooms, Adams was already well aware that respiratory complaints had been climbing for months. He knew that the culprit was the flu, but never before have health officials been able to identify the peak with such precision, he said.

Analyzing the data

About three years of hospital information is used to determine "normal" disease rates in a region and to spot anomalies. The system sends out an alert whenever something out of the ordinary occurs, as it did Wednesday, when 13 rashes were reported compared with the expected eight. Adams knew that the rashes did not pose a serious health concern.

"This time of year we have a lot of poison ivy, so we get a lot of rash alerts," he said.

Two cases are not going to raise red flags. But if 100 people showed up at hospitals in the same ZIP code with the same symptoms, it could be an early sign of an outbreak. In that case, Adams can alert physicians through e-mails and faxes.

About six times a year, he sends out alerts to 4,000 healthcare professionals. The most recent one involved a recalled soft contact lens solution linked to infections.

If an anthrax outbreak occurred, the surveillance system would help health officials begin distributing medications to Tarrant County's 1.7 million residents, Adams said.

"The public health department's job is to save as many people as possible, and to do that we have to spot the problem early," he said.

Jan Jarvis, 817 548-5423
jjarvis@star-telegram.com

Under observation

When you're sick, Tarrant health surveillance system takes note

Got a cough, a sneeze or the flu?

Tarrant County Public Health is tracking you. About 300 area pharmacies, 50 hospitals and 100 physicians, among other health providers, are transmitting information about your ailments and the medicine you buy to a recently expanded computer surveillance system designed to help officials alert the public to outbreaks and bioterrorism threats.

For example, data crunching pinpointed Feb. 5 as the worst day this year for the flu, based on the high numbers of sick people who sought help in emergency rooms and bought medicine. Dr. Elvin Adams, medical director for Tarrant County Public Health, calls the system a safety net that "lets you see everything going on."



STAR-TELEGRAM / MAX FAULKNER

With the surveillance system, Dr. Elvin Adams, medical director for Tarrant County Public Health, can track trends in all kinds of illnesses. It provides an early indication of threats to public health. He says the department is also committed to protecting people's privacy.

A CLEAR PICTURE: TRACKING RESPIRATORY AILMENTS

By monitoring data, Tarrant County Public Health officials saw that the number of respiratory cases built up steadily over several months until the flu peaked Feb. 5. Maps illustrate the days leading up to the peak; the darker the color, the higher the number of cases.

Feb. 2

Normal: 247 **This year:** 293

Feb. 3

Normal: 249 **This year:** 342

Feb. 4

Normal: 253 **This year:** 379

Feb. 5

Normal: 255 **This year:** 457

Source: Tarrant County Public Health. Note: "Normal" rates are based on about three years of hospital information.