

# NEWS RELEASE

*For immediate release*

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## **Richmond (Virginia) Ambulance Authority Announces Installation of FirstWatch™ Biosurveillance System**

### ***New System Taps into 9-1-1 Data to Provide Early Detection Of Stealth Bioterrorism as well as Environmental Events***

RICHMOND, Va., September 25, 2002 – Jerry Overton, Executive Director of the Ambulance Authority for the city of Richmond, announced today the implementation of a new biosurveillance system that can provide early warning for stealth bioterrorist or chemical attacks. The first of its kind, the “FirstWatch™” system uses real-time information culled from 9-1-1 calls to detect trends indicating the possible outbreak of disease, illness or patterns of injury either from natural causes or acts of terrorism. Richmond has been selected as the test site for the enhanced features of FirstWatch™ because of its state-of-the-art EMS system and is the first city in the world to implement the commercial version of the product.

The FirstWatch™ system works by continuously scanning 911 calls as they come into the dispatch center and comparing the symptoms and complaints reported by patients to historical data and to the symptoms identified with specified events. Spikes against defined patterns in a given area indicate suspicious trends. When a significant spike occurs, the system automatically alerts officials via pager, e-mail, on screen, printed or faxed reports.

Research conducted at Harvard University shows that current U.S. epidemiological systems designed to identify public health trend changes are antiquated and slow (see <http://dsg.bwh.harvard.edu/courses/hst950/5.pdf>). The earlier the warning of a possible “incident,” the more time officials have to implement an appropriate response. The Harvard research shows that identifying an outbreak two to three days earlier can decrease illness and death by five to seven times. For much of the population, especially inner-city communities, the 9-1-1 system is the patient’s point of entry into the health care system for all needs, including minor illnesses such as the flu. This means calls to 9-1-1 (whether the patient was transported or not) would capture a significant percentage of people exposed to a bioterrorist contagion, even if initial symptoms appeared to the patient not to be life-threatening. Importantly, it captures the information at the very first opportunity. FirstWatch™ can also monitor or be integrated with other indicators, such as emergency department data, school absenteeism, or over-the-counter drug sales to supply even more pieces to the puzzle.

“Implementing FirstWatch™ is a milestone event for our city,” said Overton, who also serves as incoming President of the American Ambulance Association and is on the College of Fellows for the National Academies of Emergency Dispatch. “We now have an important safety net for our citizens, not just for a bioterrorist or chemical event, but for such natural events as heat waves, food or carbon monoxide poisonings, or accidents. In fact, the heat module we created for FirstWatch™ in Richmond already has alerted and sent out automatic notifications, exactly as planned.”

"No matter what the threat, natural or man-made, knowing about the situation faster than is currently available can reduce illness and death significantly," Overton added. "And the built-in mapping technology gives us an instant visual on affected sectors of the city."

The Geographic Information System (GIS) integrated into FirstWatch™ is a critical component. It stores, retrieves and manipulates the data in such a way that events can be displayed instantaneously on local and regional maps. Using spatial analysis, unusual clusters of patients and their locale can be quickly identified.

FirstWatch™ is a product of Stout Solutions, nationally recognized as a leading supplier of software and custom reports to the emergency dispatch community. Its clients include many of the leading police, fire and EMS communication centers in the U.S., Canada, the United Kingdom and New Zealand.

Stout Solutions developed an early prototype of the product for use in Kansas City, Missouri in 1999. "That early version successfully alerted during an ice storm, demonstrating the concept could work," said Todd Stout, president of Stout Solutions and a former ambulance service director. He then began to work with Overton and the Emergency Communications Center in Richmond to perfect the system for broad-based use, and to develop a way to aggregate the data from many different dispatch centers.

"The Richmond Ambulance Authority is one of the most advanced EMS systems in the world. Its emergency communications center is accredited as a Center of Excellence by the National Academies of Emergency Dispatch. We are pleased to be working with them on the FirstWatch™ beta project," said Stout. "As more agencies in cities throughout the United States use the system, data will be linked through our secure, centralized data network so authorized users can view aggregated data on a regional or even national level. This data will be available to government agencies for bioterrorism monitoring and can be pushed to other government data centralization sites for consolidation with other data sets such as lab results, emergency room data, school absentee data and over-the-counter drug sale data. The more users we have, the broader the data capture on a national scale."

"There is no doubt that an early warning of any epidemiological outbreak, be it bioterrorism or of natural causes, could substantially reduce the morbidity and mortality rates in any city in America," said Overton. "FirstWatch™ is a significant step in increasing our overall preparedness in these changing times."

First Watch™ will be completing its beta testing this fall and will soon be available for general purchase. Pricing will be in the \$5,000 to \$25,000 range, plus an annual maintenance fee, based on the size of the population served. Additional information can be found at <http://www.stoutsolutions.com> or by calling 1-760-943-9123.

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## **Fact Sheet: FirstWatch™ Early Warning Biosurveillance System**

**What it is:** The FirstWatch™ system uses real-time information culled from 9-1-1 calls to detect trends indicating the possible outbreak of disease, illness or unusual patterns of injury either from natural causes or acts of terrorism.

**How it works:** The FirstWatch™ system works by continuously scanning 911 calls as they come into the dispatch center and comparing the standardized symptoms and complaints reported by patients to historical data and to the symptoms identified with specified events. Spikes against defined patterns in a given area indicate suspicious trends. When a significant spike occurs, the system automatically alerts officials via pager, e-mail, on screen, printed or faxed reports.

### **Why FirstWatch™ is Important:**

- 1) To date, biosurveillance systems have taken days or weeks to identify possible events, because they relied on data that came from reports generated by a variety of hospitals, labs or other institutions or sources well after patients have been treated. It is time-consuming and complex to identify trends from data representing varied sources that usually have different ways of reporting the data. FirstWatch™ bypasses this delay by getting the data at the earliest possible time—when patients call 9-1-1 to report an illness—using standard reporting system. Its Geographic Information System (GIS) is able to display the data on maps for quick identification of suspicious clustering patterns.
- 2) The FirstWatch™ system is able to aggregate for analysis data from many different dispatch centers onto a secure internet site, providing the potential for regional and even national surveillance.
- 3) While FirstWatch™ can provide early warning for bioterrorism, it can also be used for everyday monitoring and data gathering. This has great potential benefits for public health, as officials are able to monitor trends involving environment events such as heat or cold waves, accidents (e.g. motor vehicle incidents or drowning) and naturally occurring disease, such as influenza, among other applications.

**Who Created FirstWatch™:** Todd Stout, president of Stout Solutions, invented the FirstWatch™ system. Since 1998 Stout Solutions has been nationally recognized as a leading supplier of software and custom reports to the emergency dispatch community. Its clients include many of the leading police, fire and EMS communication centers in the U.S., Canada, the United Kingdom and New Zealand. Stout began his career in public safety more than 20 years ago as a paramedic and then ambulance service manager.

**Where it is Installed:** The Richmond, Virginia Ambulance Service has been selected as the first beta (test site) location for the commercial version of FirstWatch™. It was officially installed there during the summer of 2002 with the final elements put into place the third week of September 2002. The prototype of FirstWatch™ was installed in Kansas City, Missouri for use by Metropolitan Ambulance Service Trust in 1999.

**When it Will be Available:** Additional beta sites will be selected for final testing during the fall of 2002. Stout Solutions plans to have FirstWatch™ available to cities and their 9-1-1 centers in early January 2003.

FirstWatch™ is a registered trademark of Stout Solutions, LLC, which has patents pending on its technology and processes.