Program Name: Health Emergency Response Data System (HERDS)

Administering Agency: New York State Department of Health (NYSDOH)

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Web site Address: resides on NYSDOH secure network requiring user authentication for access.

Please provide a two-sentence description of the program:

The Health Emergency Response Data System (HERDS) is a statewide electronic web based data collection system linked to health care facilities (all NYS hospitals) through a secure internet site that allows hospitals to relay resources or needs to the Department of Health during emergencies, or respond immediately to rapid request surveys in preparedness planning efforts.

HERDS includes the following critical functions to support the emergency response process:

- alert system and a facility specific communications directory of accurately maintained contact information that allows immediate alerting capability to hospitals regarding a HERDS activation on a 24/7 basis;
- patient locator and tracking system that lets the general public inquire about missing persons or for EMS, fire and police to track individuals moved from the scene;
- real time secure electronic discussions that are key to the incident command and resource mobilization/exchange processes; and
- data output and visualization including incident command summary reports, geographic displays of hospital fixed assets, needs, available resources, and SAS graphical analyses for trending and real time tracking.
**How long has this program been operational (month and year)?**

HERDS became operational for all New York City hospitals beginning in July, 2002 and for hospitals statewide by September 2002.

**Why was the program created? (What problem[s] or issue[s] was it designed to address?)**

HERDS was created as a direct result of New York City hospitals response to the World Trade Center disaster of September 11, 2001. Hospitals responding to the disaster, and those at Ground Zero were inundated by hundreds of calls and inquiries from federal, state, and local authorities asking for specific information concerning beds, victims, personnel, supplies etc, as well as citizens, businesses and others looking for people involved in the disaster, while they were trying to respond to patient needs. This information was needed by many without a common way to share the results.

As a result, the hospitals requested assistance from the Greater New York Hospital Association (GNYHA) to advocate developing a system where a designated governmental authority could collect the specific data requested by the federal, state, and local agencies, and place it in a central repository so that it could become the source for sharing the pertinent information with those who need to know.

In addition, many individuals were searching for their loved ones, visiting one hospital after another trying to locate missing persons. New York City hospitals stressed the need for a patient locator system that would allow the public to access information regarding their loved one if indeed that person was seen at a NYC hospital.

**Describe the specific activities and operations of the program in chronological order.**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>October, 2001</td>
<td>First meeting of the Emergency Preparedness Council of the Greater New York Hospital Association to request the data system be developed.</td>
</tr>
<tr>
<td>October, 2001 – March, 2002</td>
<td>HERDS program developed</td>
</tr>
<tr>
<td>April – June, 2002</td>
<td>Emergency accounts, user accounts, business rules, security rules, standards of use and data elements developed.</td>
</tr>
<tr>
<td>July, 2002</td>
<td>HERDS ready for activation in 75 New York City Hospitals</td>
</tr>
<tr>
<td>September, 2002</td>
<td>HERDS activation possible for all 251 hospitals in New York State.</td>
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</tbody>
</table>
October, 2002 | HERDS surveys all hospitals for “Needs Assessment and Airborne Isolation Infection Room”.
---|---
November, 2002 | Drill with 60+ hospitals
February, 2003 | Threat Level Orange outreach to all hospitals.
March, 2003 | Pharmaceutical 24hr. turnaround survey (all hospitals)
June, 2003 | Drill with 74 hospitals
August, 2003 | • Rural hospital drill  
| | • Activation of all hospitals during Blackout  
| | • Community and multiple hospital/county drill
September, 2003 | Activation for Hurricane Isabel (all hospitals)
October, 2003 | Weekly activation for bed status (all hospitals)
December, 2003 | Weekly pediatric influenza and deaths
December, 2003 – Jan., 2004 | Activation for New Years Eve
April, 2004 | • Drill at West Point Military Academy  
| | • Drill of Strategic National Stockpile mobilization

**Why is the program a new and creative approach or method?**

HERDS can be activated during pre-emergencies or emergencies and collect or transmit information with all hospitals in New York State in real time. The system can track patients (casualties) from a field site by using a unique identifier for emergency responders, or can act as a patient locator for the public, complying with all HIPPA regulations. HERDS data entry screens and activated participants can be changed in real time during an emergency incident, and so is scalable and customized to the unique needs of the event. HERDS is coupled to the NYSDOH GIS and SAS data visualization systems for geographic selection of participant hospitals based on relevant assets, and for visual real-time review and tracking of asset and resource depletion or availability. The GIS function also provides additional map layers such as road and highway systems, and locations of other key facilities and entities such as local long-term care and local emergency operations centers. The SAS visualization tools are an exceptionally powerful tool for resource planning by individual hospitals, regional hospital alliances or mutual aid agreement participants. HERDS is linked to the NYSDOH communications directory and notification system which allows for redundant modes of emergency communication contacts to essential personnel involved in the event, and to the NYSDOH secure discussion forum to support incident command decisions and mission arrangements.

**What were the program’s start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.) What are the program’s annual operational costs?**

Start up costs include percentages of costs for the host web server cluster environment, database server cluster and software; ORACLE/GIS and automated dial out systems,
application server cluster; network, operating system and encryption servers of approximately $130,000. Annual maintenance/enhancements and personnel costs are approximately $200,000.

**How is the program funded?**

Development of this application was funded under CDC grants for Information Network for Public Health Officials (INPHO), National Electronic Disease Surveillance System (NEDSS) and Public Health Preparedness, Focus Area E.

**Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.**

No

**What equipment, technology and software are used to operate and administer this program?**

Sun clusters for application, database and web servers; server for autodial out/integrated voice response system (IVR); database, secure discussion, GIS and SAS software; in house developed software for communications directory, software for autodial/IVR system.

**To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator’s name, present address, telephone number and e-mail address.**

Yes

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**Are you aware of similar programs in other states? If YES, which ones and how does this program differ?**
Other states are reaching out electronically to hospitals but do not have an alert and communications role directory attached to their system to enable it to work as effectively.

**Has the program been fully implemented? If NO, what actions remain to be taken?**

The system has been fully implemented for its originally planned functionality and scope. The planned patient locator module is developed and will be deployed upon selection of appropriate host website for public access.

**Briefly evaluate (pro and con) the program’s effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.**

As listed above, the application has been used in a number of real events and has helped identify critical gaps in communication capacity for hospitals. The system has built awareness among hospitals for critical communications infrastructure, improvement in the effectiveness and design of alerting protocols and improvement in the practice of maintaining accurate contact information in an electronic directory among hospitals. Hospitals are becoming very familiar with the interface and have come to rely on it; frequently asking the State to activate the application when they themselves have recognized a need or situation when HERDS will help to enhance response.

Especially important is the increased effectiveness in communications and facilitated planning of regional resources, enhancing the interaction between public health and healthcare sectors collaborating in the incident command process. During the Northeast blackout, the system provided important information regarding hospitals readiness to deal with loss of power and communications and provided an immediate and reliable means of monitoring very critical infrastructure that was being depleted in some cases.

**How has the program grown and/or changed since its inception?**

Additional survey capacity has been included as well as GIS and SAS functionality beyond the original design. Additional enhancements based on program needs and user suggestions that are either under development or developed and being modified include: other integrated data capture modules (e.g., patient tracking for first responders; facility assets tracking and verification module for hospitals), and modules for tracking resources and surge capacity for other types of healthcare providers including nursing homes and labs, as well as local health departments. Additional levels of access for additionally defined user group types have also been developed.

**What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?**

The application is fully compliant with CDC Public Health Information Network (PHIN) standards for interoperability and transportable business logic (java toolkit and foundation classes for developing standard functions and interfaces) and uses standard
formats for file transfer between its critical components (e.g., XML and PHIN Messaging System). Other states will encounter some work in fitting the application into their local infrastructure, particularly for authentication and access control, as well as for alerting and maintenance of the public health directory.

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