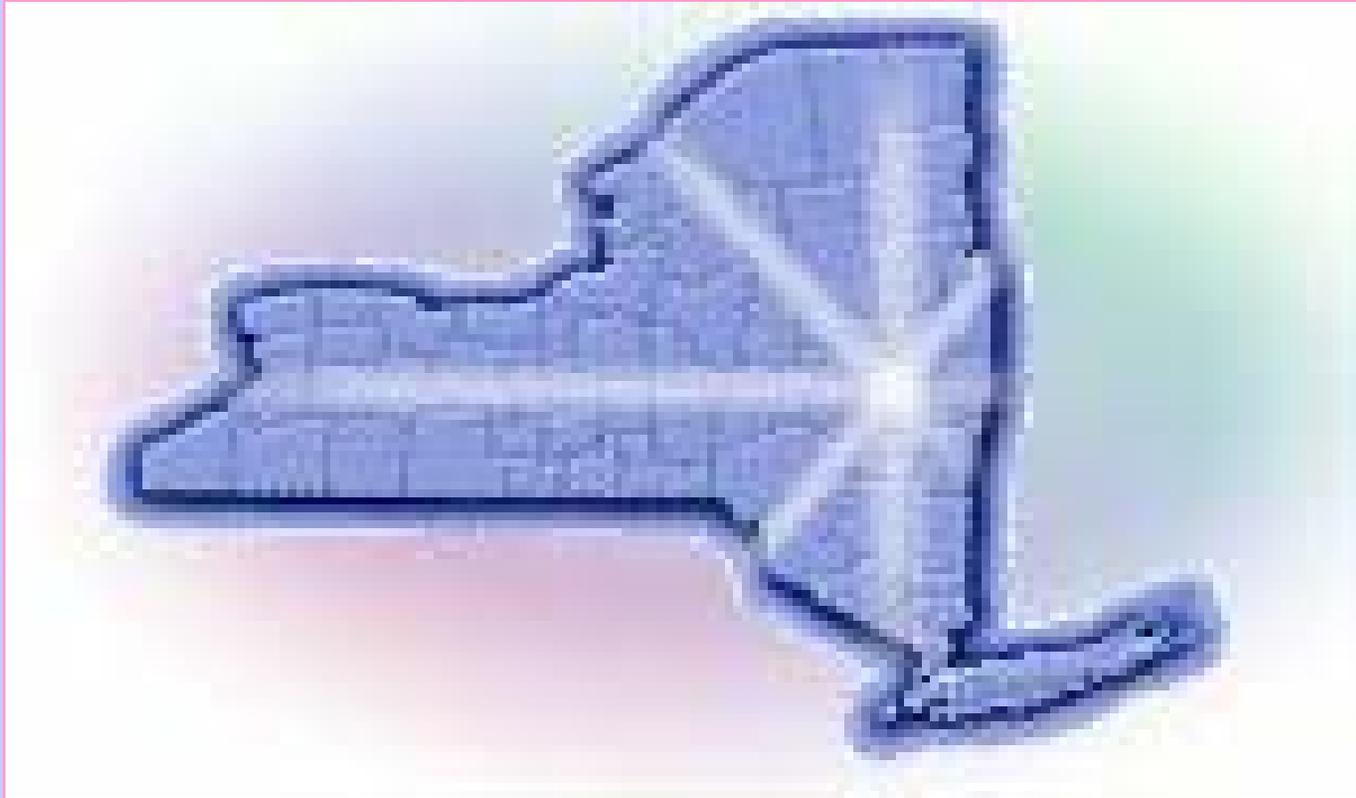


Health Emergency Response Data System (HERDS)



NY State Health Commerce
Enterprise-wide Integrated Information Systems
Public Health **Preparedness, Planning, Response**

Authors

- **New York State Department of Health**

Ivan J. Gotham, Ph.D.

Debra L. Sottolano, Ph.D.

Mary Ellen Hennessy, RN

John P. Napoli

Gregory Dobkins

Linh H. Le, M.D., MPH

- **Greater NY Hospital Association**

Susan C. Waltman, Esq.

Susan Stuard

The Event



Significant Information Issues for Health Care Response

- Competing, conflicting and disparate information requests from multiple sources: everyone asked their questions differently
 - providers
 - emergency managers
 - health departments
 - media
 - public officials
 - law enforcement
- No formal process existed for collecting information
- Multiple requests were disruptive to providers
- No clear authority as to who could collect and obtain the information

Post 9/11 Response: Define Requirements from Ground-upwards

- **GNYHA Coordination**
- **Emergency Preparedness Coordinating Council (EPCC)**
- **Regional planning and response (NY, NJ, CT)**
 - Establish ongoing dialogue: meetings, briefings, and drills
 - Establish Framework for communicating regarding emergencies, alerts, advisories, and protocols
- **EPCC composition:**
 - Providers of all types (hospitals, nursing homes, home care, physician organizations)
 - Local, state, and federal agencies (health, emergency management, and law enforcement)

Mandate for A Statewide Health Emergency Response Data System

- EPCC mandate: develop system to meet information exchange needs based on 9/11 and extend to Public Health Events in general
 - Facility resources, surge
 - Event-related visits
 - Event Patient locator/tracking system
- Goals :
 - Develop agreed-upon needs for the data system
 - Ensure that system is oriented toward the needs of the health care system
 - Protect confidential, Competitive and proprietary data:
Use Central authoritative source (Regulatory authority)
 - Use Existing Infrastructure

Health Events

E. Coli (0157) – Washington Co.

West Nile Virus

911

Anthrax Letter attacks

Monkey Pox

SARS

North East Blackout

Influenza

Required Functions

- **Planning and Preparedness**
 - Surveys
 - Surveillance
 - Asset tracking
- **Response**
 - Electronic Incidents (Surge, resource availability and requirements) supporting the ICS
 - Event Patient/Victim tracking
- **Integrated Data Visualization**
- **Automated Alerting based on a Central Directory (Role and Contact Information)**
- **Secure Collaboration**

NYS Enterprise-wide Health Commerce Domains

Health Facilities/Providers/Other

- Hospitals – 250 (all)
- Nursing Homes – 690 (All)
- Home Health/Personal Care – 600
- Diagnostic & Treatment Ctrs. – 500
- Physicians (20-30K in process)
- Managed Care Orgs. (70)
- Other
 - Clinical & Env. Labs –1805
 - Pharmacies 200
 - PHP Ag. And Markets, EMS
 - Env. Conservation

Local Health

All
County Health Depts. – 57
NYCity DOH

**NYSDOH
Health
Alert Network**

22,000 accounts
8000 Organizations
2,800 User logins /day
450,000 access hits/day
100 mission critical Applications

NYS HEALTH COMMERCE Architecture



Health providers,
Response partners,
Agencies



Local Health
Departments



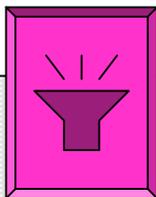
Health
facilities



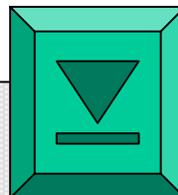
Clinical Labs

E-mail Fax
Phone (cell,pager)
Secure Web Posting

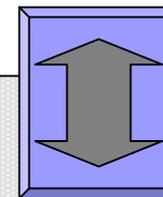
! Alerting



Secure Web Access



Secure Automated
Messaging (EbXML/XML/HL7)



Automated live exchange
Clinical data
Alerts
Other State/Federal Systems

Disease Surveillance
E-Lab Reporting

HERDS

Other Commerce
Information
Systems

Integrated Alert
System
Integrated Voice Response

Secure
Collaboration Forum

Communications
Directory

Data Visualization
& Analysis
GIS

Integrated Data
Repositories

Spatial Data
Warehouse

SECURITY, Availability, Continuity

Health Emergency Response Data System

Information Flow

- **Live Data interchange between Health Facilities and Key Organizations who need to know.**
- **Key Organizations see data as soon as it is reported.**
- **Statewide**
- **Horizontal and Vertical Hierarchy**
 - Local – Counties see information for their jurisdiction**
 - Networks – see information for ‘within network’ Health Facilities**
 - Associations – within membership for Incident command**
 - Regional – information within region**
 - State – within state**
- **Key Organizations**
 - Health Facilities**
 - Public Health**
 - Emergency Management / Response**
 - Other (Fire EMS)**

Health Emergency Response Data System

Attributes

- **Secure Internet web access**
 - ❑ Manual- web entry or automated-PHINMS
- **Multi-tasking**
 - ❑ Multiple simultaneous events in separate geographic regions (eg Mass Trauma – Buffalo, Outbreak in NYCity, Ice-storm in Syracuse)
- **Centralized Integration**
 - ❑ Reporting to central repository
 - ❑ Standardized data elements and analyses
 - ❑ Alerting, contact, access and activation from a central directory
 - ❑ Linkage to other key data systems(Disease surveillance, lab reporting)
- **Distributed administration (within hierarchy)**
- **Real-time surveillance and incidents**
 - ❑ Surveillance, incidents created and changed on-the-fly without programming
 - ❑ Deployed in real-time: to individual facilities, county,region, statewide

Health Emergency Response Data System

Attributes

- **Integrated Alert System**

- Central Communications Directory – contact information updated by Coordinators at Organizations**
- Automated alerting on activation**
- XML messaging**

- **Role-based Permissions**

- HERDS Roles**

 - Administrator**

 - Incident commander**

 - Data Reporter**

- Based on or mapped to function in Organizational Hierarchy**

 - e.g. Local Health Director role**

 - read access to data for a regional event**

 - administrative permission for county**

- Central Communications Directory – Role information updated by Coordinators at Organizations**

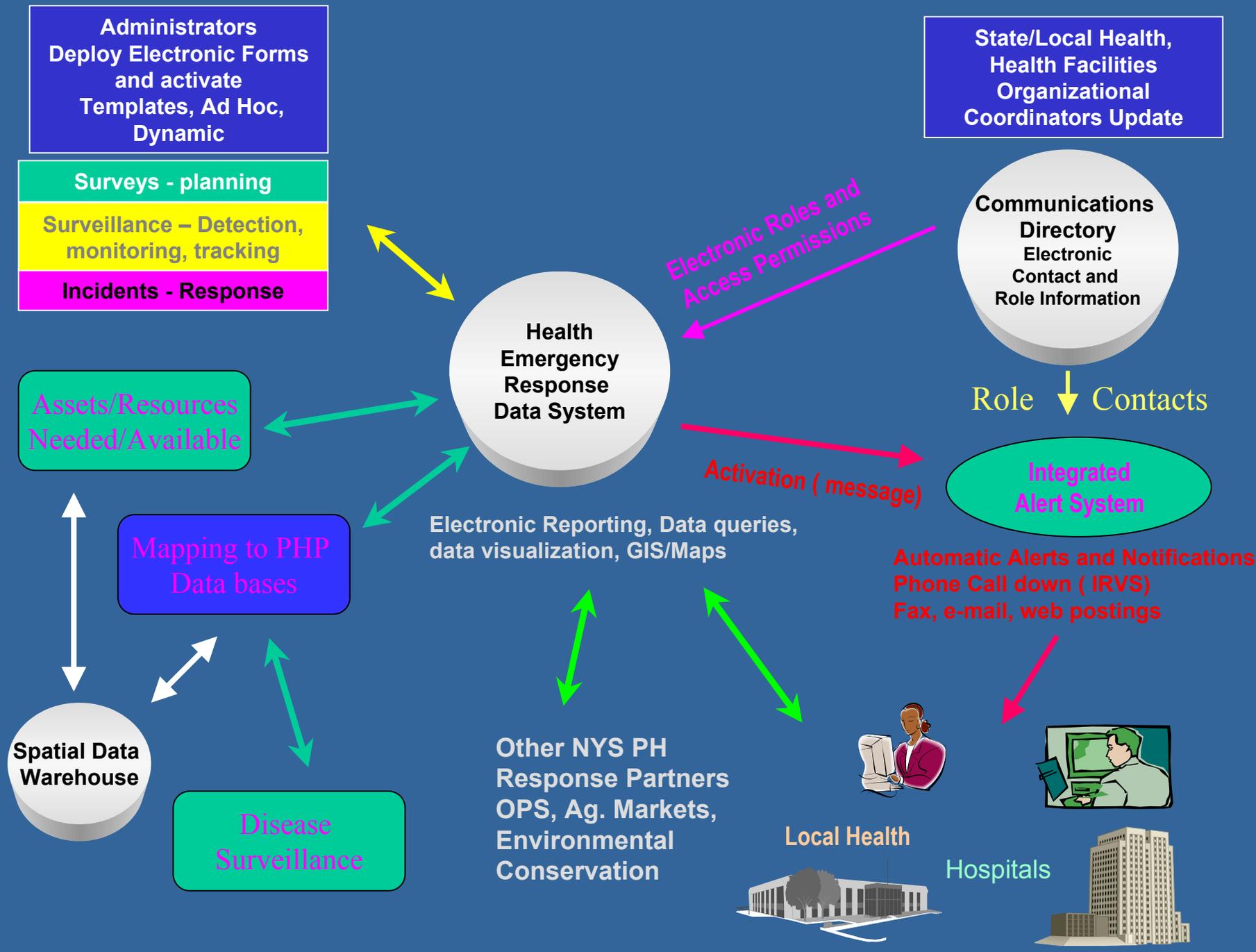
Health Emergency Response Data System

Attributes

- **Dynamic Secure collaboration forum**
 - ❑ **Built on the fly on activation, including organizational Hierarchy**
 - ❑ **Based on communications directory**
- **Linkage to other key data systems(Disease surveillance, lab reporting)**
- **Advanced Data Visualization**
 - **Live queries**
 - **Tend and snap-shot graphical displays**
 - **Interactive GIS**

History

- **Deployed July 2002 NY City Metro Area**
- **May 2003 - Commissioner Letter HERDS/GIS Official Response system**
 - **LHDs**
 - **Hospitals**
 - **SEMO**
 - **County Emergency Managers**



Administrators
Deploy Electronic Forms and activate Templates, Ad Hoc, Dynamic

State/Local Health, Health Facilities
Organizational Coordinators Update

- Surveys - planning**
- Surveillance – Detection, monitoring, tracking**
- Incidents - Response**

Health Emergency Response Data System

Communications Directory
Electronic Contact and Role Information

Role ↓ Contacts

Assets/Resources Needed/Available

Integrated Alert System

Electronic Roles and Access Permissions

Activation (message)

Automatic Alerts and Notifications
Phone Call down (IRVS)
Fax, e-mail, web postings

Electronic Reporting, Data queries, data visualization, GIS/Maps

Mapping to PHP Data bases

Spatial Data Warehouse

Disease Surveillance

Other NYS PH Response Partners
OPS, Ag. Markets, Environmental Conservation



Use of HERDS System To Date

Date	Activation	Type	Location	Hospitals	Counties
4-Oct-02	HRSA Needs Assessmet	Survey	Statewide	149	53
14-Nov-02	GNYHA Drill - Dirty Bomb	Drill	NYCity Metro Area	60	14
15-Dec-02	Airborne Infection Isolation Room Capacity	Asset Survey	Statewide	224	57
Feb-2003	Threat Level Orange	Preparedness Survey	Statewide	194	57
20-May-03	Pharmaceutical Inventory	Preparedness Survey	Statewide	210	57
3-Jun-03	GNYHA Drill - SmallPox	Drill	NYCity Metro Area	75	12
6-Aug-03	Iroquois Healthcare Consortium Drill - toxic spill	Drill	Central NYS	7	3
14 -15 - Aug-2003	NorthEast Blackout	Emergency	Statewide	117	57
17-Aug-03	Champlain Valley Physicians Hospital Drill: Nerve	Drill	Northern NYS	11	6
16-Sep-03	Hurricane Isabel	Perparedness Survey	Statewide	225	57
8-Oct-03	Weekly Bed Availability	Surveillance	Statewide	231	57
12-Nov-03	GNYHA Drill - SARS	Drill	NYCity Metro Area	65	18
10-Dec-03	Influenza Vaccine Inventory	Preparedness Survey	Statewide	213	57
18-Dec-03	Pediatric influenza related illness Suveillance	Surveillance	Statewide	192	57
30-Dec-03	Threat Level Orange	Preparedness Survey	Statewide	239	57
10-Apr-04	West Point Drill - Trauma / Chemical exposure	Drill	Hudson Valley NY	4	1
19-22 - Apr-04	SNS Exercise - Tularemia	Drill	NY City Region	31	10
5-May-04	GNYHA Drill Eplosions	Drill	NY City Region	65	10