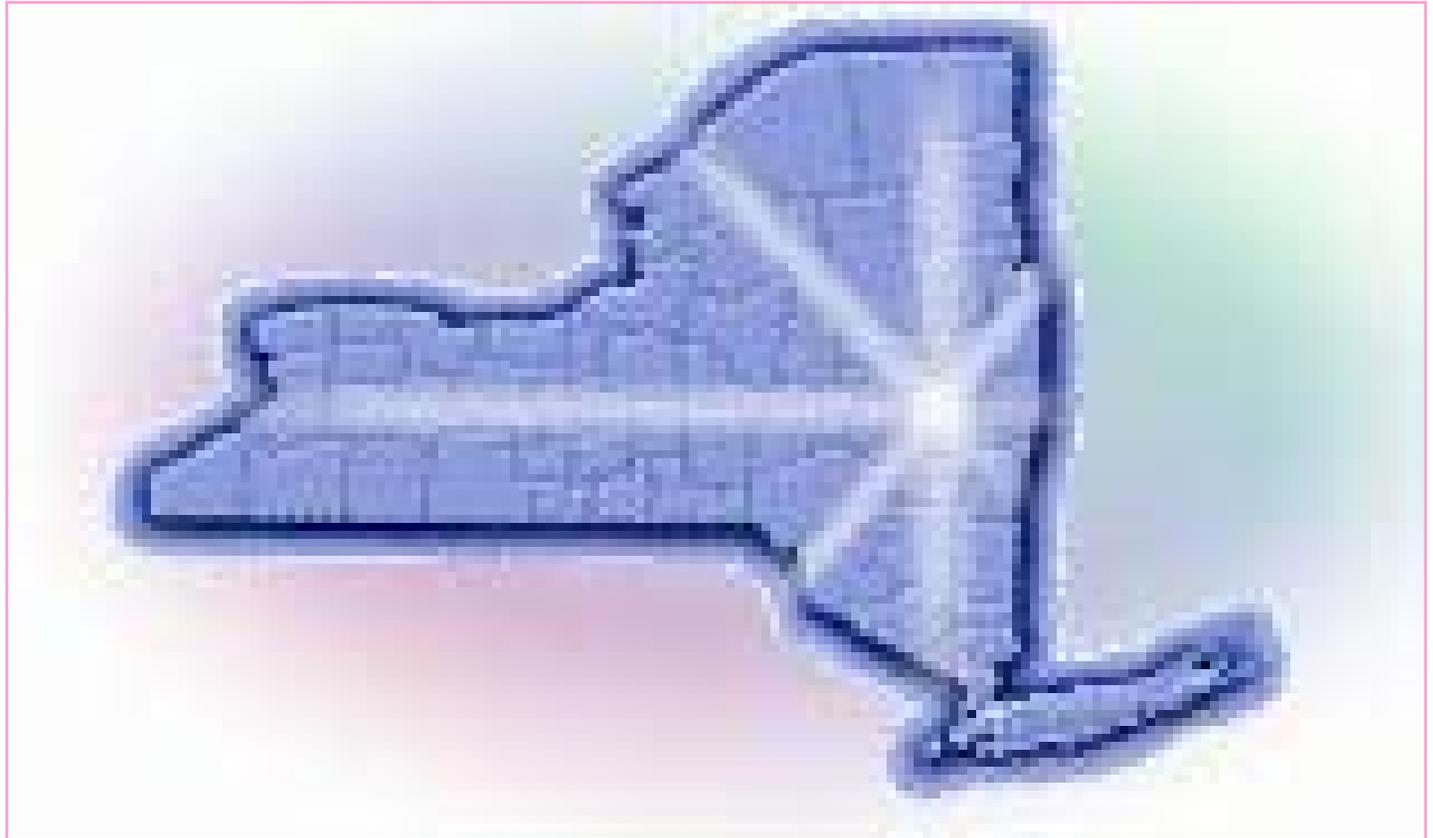




NY State Health Commerce System



**Integrated Information Systems for
Public Health Preparedness, Response and Recovery**

The Role of Integrated Health Information Infrastructure in Supporting
Planning and Preparedness for a Key Regional Public Health Event.
The Republican National Convention(RNC).

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KNOWLEDGE IS POWER.

RNC Event Planning

- NY City (Special Security Event)
- Time Frame: Aug 28 – Sept 3, 2004
- Regional Health Preparedness
 - NY City (lead)
 - NY State (supportive)
 - County Health Departments
 - Nearest Neighbor: Nassau, Suffolk, Westchester, Rockland
 - Region: Orange, Putnam, Dutchess, Ulster, Sullivan
 - Federal Government (DHHS –Region II)
 - Other States (New Jersey, Connecticut)

Health Preparedness Functions/Information Required

- Health Alerting/Communications Directory
- Epidemiological Surveillance (Disease reporting / syndromic)
- Health Facility Assets
 - Attributes, equipment, supplies, pharmaceuticals, antidotes
 - Capacity (surge)
 - Current patient traffic status, admission trends
 - Patient/victim tracking
- Provider/Practitioner Assets
 - Volunteers by specialty
 - Regional practicing physician specialties
- Laboratory capacity/attributes

Supportive Requirements

- Live data feeds
- Integrated functionality and data summarized and available across systems
- Provide high level situational awareness to Executive Decision makers using data visualization
- Regional access by state, local, regional, Federal health/response agencies
- Leverage Existing Infrastructure

Existing Commerce Infrastructure Used by Analytical and Program Staff During RNC

- Secure Health Commerce System
- Health Alerting
 - Integrated Health Alerting and Notification System
 - Communications Directory
- Public Health Preparedness Information Systems
 - Health Emergency Response Data System
 - Disease Surveillance and ELC Systems
 - Medical Volunteer tracking

NYSDOH Health Commerce System

Routine Information Interchange & Public Health Preparedness

Health Facilities/Providers/Other

Health Provider Network (HPN)

- 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)
- Clinical, Env. Labs – (1805)
- Pharmacies (200)
- EMS, Emergency Managers, Fire, law enforcement

Local Public Health

Health Information Network (HIN)

All County Health
Depts. – (57)
NY City DOH

NYSDOH Health Alert Network

New Organizations

Federal: DHHS
NYState: DHS, CSCIC (CyberSecurity Critical Infrastructure), Dept. of Agriculture & Markets, State Police, OEM, Insurance Dept., OMH, DEC
NYC: FDNY
Other States: NJ DOH; CT DOH

25,000 accounts
8,000 Organizations
2,800 User logins /day
450,000 access hits/day
150 mission critical applications

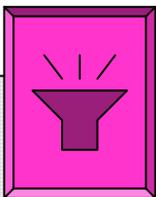
NYS HEALTH COMMERCE Architecture



Health providers,
Response partners,
Agencies

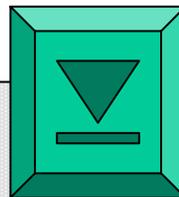
E-mail Fax
Phone (cell,pager)
Secure Web Posting

! Alerting



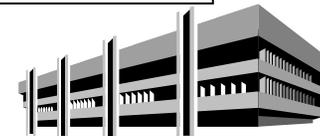
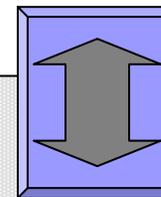
Local Health
Departments

Secure Web Access



Health
facilities

Secure Automated
Messaging (EbXML/XML/HL7)



Clinical Labs

Automated live exchange
Clinical data
Alerts
Other State/Federal Systems

Disease Surveillance
E-Lab Reporting

Health Emergency
Response Data System

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

Commerce Health Alerting

- **Communications Directory(ComDir)**
 - Central Repository for Role and Contact Information for all Organizations
 - Place contacts (eg. Business Office 24/7 contact)
 - Role/Person contacts (e-mail,fax,pager,cell)
 - Roles customized by organization type
 - Updated by Organizations
- **Integrated Health Alerting and Notification System**
 - Uses role/contact information from ComDir
 - Multiple contact methods:voice-phone/cell, pager, e-mail,fax, secure web posting
 - Multiple notification priorities:alert, advisory, update, informational
 - Contact methods determined by the level of notification priority
 - Predefined or user-customized lists
 - Web-based tool usable by state and local health within jurisdictions

Public Health Preparedness Information Systems

- Epidemiological and Lab Capacity
 - Statewide Disease Reporting System
 - Statewide Electronic Clinical Lab Reporting System
 - Statewide Arbovirus surveillance (Human, Animal, Vector)
 - ED and Syndromic Surveillance
 - Lab Response Network
 - Suspect case Photo Submission
- Health Care and Provider Capacity
 - Health Emergency Response Data System
 - Medical Volunteer database

Disease Surveillance, Detection and Response

New York State DOH Central and Regional Offices

Surveillance Data
Health Alerts, Lab Test Results
Community Disease Case Reporting
Animal, Vector, Bird Surveillance (Arbovirus WNV)

NYSDOH Health Commerce System

- Alerting and Communications Directory
- Analysts and Health Responders
Program Specific Surveillance data
Facility and provider asset and capacity data
- Executive Decision makers
Executive Dashboard

Local Health Departments



HL7, LOINC

Lab Test Results



Commercial Clinical Labs
LabCorp, Quest, etc.



**Federal Agencies (CDC, DHHS),
Other states**

Surveillance data
Health Alerts,
Lab Test Results,
Hospital Disease Reporting,
Syndromic Surveillance,
Facility Resource Information

Hospitals



**NYS PH Response
Partners**
DHS, CSCIC, OMH,
Ag. Markets, SEMO

Health Emergency Response Data System(HERDS)

- Live Statewide information flow between Health Facilities and State, local health response partners for:
 - ❑ Planning (Capacity, Drills, Preparedness)
 - ❑ Surveillance (on-going monitoring of capacity or events)
 - ❑ Incident Response (reporting, monitoring of resources, needs)
 - ❑ Inventory Facility Assets
 - ❑ Tracking patients and victims
- Multi-tasking - Multiple simultaneous events in separate geographic regions.
- Real-time surveillance and incidents
 - ❑ Flexible, adapting to changes in the event as it evolves
 - ❑ Surveillance forms, incidents created/deployed on-the-fly without programming
 - ❑ Targeted deployment from individual facilities, to county, region, statewide
- Facilities/Affected Jurisdictions alerted on activation
- Advanced Data Visualization: GIS, charts, graphs
- Used by NYS State/Local Health, NYCity(HMH, OEM, GNYHA), Hospitals in CT, NJ

Example HERDS Detail Data on from Health Facilities

Health Emergency Data Reporting - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Version: 1.1 Health Emergency Data Reporting Date: 2/3/2005
Time: 10:01:37 PM

[Message](#)
[Hospital Information](#)
[Emergency Dept/Decon](#)
[Special Attributes](#)
[Communications](#)
[Equipment](#)
[Capacity](#)
[Pharmaceuticals](#)
[Staff](#)
[Generators](#)

Capacity

N/A [Return](#) [Refresh from Dictionary](#) [Create New Field for Incident](#) Critical Asset Survey

[Modify Page](#)

Bed Surge Capacity	Report Numbers as of Yesterday at Midnight	Bed Surge Capacity	Report Numbers as of Yesterday at Midnight
Modify Group AssignFields		Modify Group AssignFields	
Adult ICU Unit		Observational Unit/Beds	
Does your Facility have an Adult ICU Unit(s)?	<input type="radio"/> Yes <input type="radio"/> No 2607	Does your Facility have an Observational Unit/Beds?	<input type="radio"/> Yes <input type="radio"/> No 2628
If Yes:		If Yes:	
Certified Adult ICU Beds	<input type="text"/> 2608	Certified Observational Beds other than ED	<input type="text"/> 2629
Certified Staffed Adult ICU Beds	<input type="text"/> 2609	Certified Staffed Observational Beds other than ED	<input type="text"/> 2630
How many additional ICU level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2610	How many additional Observational level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2631
Pediatric ICU Unit		Labor/Delivery Unit/Beds	
Does your Facility have a Pediatric ICU Unit(s)?	<input type="radio"/> Yes <input type="radio"/> No 2611	Does your Facility have a Labor/Delivery Unit/beds?	<input type="radio"/> Yes <input type="radio"/> No 2632
If Yes:		If Yes:	
Certified Pediatric ICU Beds	<input type="text"/> 2612	Certified Labor/Delivery Beds	<input type="text"/> 2633
Certified Staffed Pediatric ICU Beds	<input type="text"/> 2613	Certified Staffed Labor/Delivery Beds	<input type="text"/> 2634
How many additional Pediatric ICU level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2614	How many additional Labor and Delivery level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2635
NeoNatal ICU Unit		Post-Delivery Unit/Beds	
Does your Facility have a Neonatal ICU Unit(s)?	<input type="radio"/> Yes <input type="radio"/> No 2615	Does your Facility have a Post-Delivery Unit/Beds?	<input type="radio"/> Yes <input type="radio"/> No 2636
What level of services does your facility provide?	Please Pick One 2616	If Yes:	
If Yes:		Certified Post-Delivery Beds	<input type="text"/> 2637
Certified Neonatal ICU Beds	<input type="text"/> 2617	Certified Staffed Post-Delivery Beds	<input type="text"/> 2638
Certified Staffed Neonatal ICU Beds	<input type="text"/> 2618	How many additional Post Delivery level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2639
How many additional NeoNatal ICU level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2619	Well-Baby Nursery Unit/Beds	
Adult Med/Surg Unit		Does the Facility have a well-baby Nursery Unit/Beds?	<input type="radio"/> Yes <input type="radio"/> No 2640
Does your Facility have an Adult Med/Surg Unit(s)?	<input type="radio"/> Yes <input type="radio"/> No 2620	If Yes:	
If Yes:		Certified Well-baby Nursery Beds	<input type="text"/> 2641
Certified Adult Med/Surg Beds - excluding ICU	<input type="text"/> 2621	Certified Staffed well-baby Nursery Beds	<input type="text"/> 2642
Certified Staffed Adult Med/Surg Beds - excluding ICU	<input type="text"/> 2622	How many additional Well-baby Nursery level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2643
How many additional Adult Med/Surg level patients could you care for beyond your certified bed capacity?	<input type="text"/> 2623		
Pediatric Med/Surg Unit			

HERDS GIS Hospitals within 5 miles of convention site

The screenshot displays a web GIS application titled "New York Department of Health - Microsoft Internet Explorer". The main map area shows a 5-mile buffer (yellow circle) centered on the "Republic National Convention" site in Manhattan. Numerous hospitals are labeled within this buffer, including St. Luke's Roosevelt, Mount Sinai, Lenox Hill, St. Vincent's, and others. The interface includes a navigation menu (Zoom, Pan, Identify, Query, Selection, Utilities, Output) and a "Buffer Tool" dialog box with the following settings:

- Target Theme: Hospitals
- Buffer Distance: 5
- Units: Miles

The "Buffer Tool" dialog box has a "Submit" button. The main map interface also features a "Theme List" and a "Layers" panel with the following items:

- Layers
- New York Health
- Transportation
- Orthos
- Base Map
- New York City

The bottom of the screen shows the Windows taskbar with the Start button, several open applications (New York Department of Health, Embarcadero DBArtisan, Buffer Tool - Microsof...), and the system tray with the date and time (10:37 AM).

RNC Preparedness

- **Develop Executive Dash Board(EDB) with role-based access on Commerce, integrating functions and data feeds for:**
 - ❑ Alerting
 - ❑ Cross Jurisdictional Communications Directory across affected Region
 - ❑ Epi. Surveillance (Disease Reporting, Syndromic Surveillance)
 - ED disease cluster Surveillance: Statewide, with focus within Region
 - OTC Medications, Medicaid Scripts Surveillance: Statewide, with focus within Region
 - Syndromic ED surveillance: within Region
 - ❑ Hospital capacity(HERDS)
 - Statewide Critical Assets and bed availability - 250 hospitals
 - Event patients, patient traffic, event patient symptoms – 150 hospitals within region
 - ❑ Physician Assets: within region
 - ❑ Licensed Professional Volunteer Tracking: within region
 - ❑ Lab Capacity: within region

RNC Preparedness

- **Enable access to EDB for Cross Jurisdictional Use. Providing key Executive staff with high level of situational awareness during RNC.**
 - ❑ Other states: Connecticut DOH, New Jersey DOH
 - ❑ Federal Agency DHHS Region II
 - ❑ NYSDOH and Local Health Executive Staff (9 counties and NYCith DOH)
- **Summarize and integrate information from multiple data feeds**
 - ❑ **Graphical displays**
 - ❑ **GIS Data Visualization.**

Executive Dashboard Portal

EVENT HOMEPAGE

Contact Information

Alerts

Discussion Forum

Protocols, Procedures, Plans

Resources (SNS/Chempak)

What's New

Preparedness Event: **RNC**

RNC

Region Affected: **NY Metro Area**

NY Metro Area

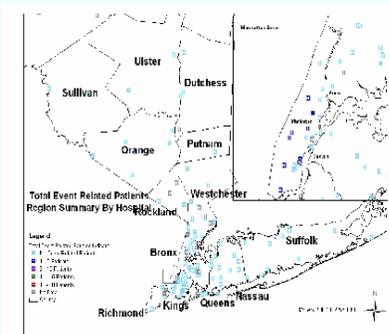
Event Status:

Counties Affected:

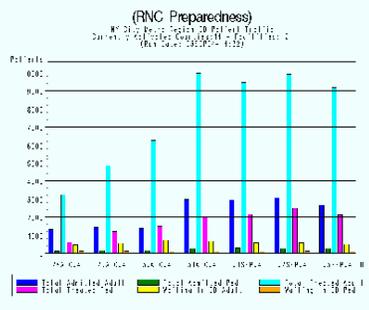
Dutchess, Nassau, NY City, Orange, Putnam, Rockland, Suffolk, Sullivan, Ulster, Westchester



Total Event Related Patients Region Summary by Hospital



Time Series for Emergency Room Traffic



Click on image to see a larger version.



Reports/Maps:

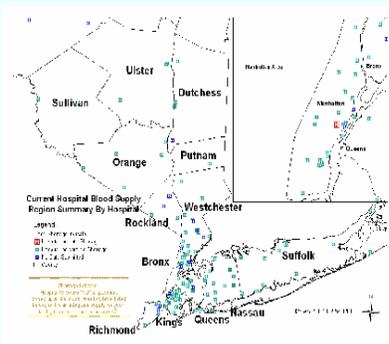
Health Facility Capacity

Epidemiological Surveillance

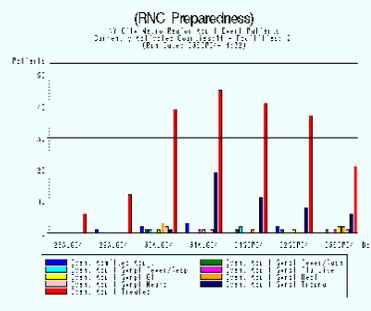
Physician Assets

Lab Capacity

Current Hospital Blood Supply Region Summary by Hospital



Time Series for Adult ED Event Patients



Time Series for Pediatric ED Event Patients

[Tutorial now available with overview of dashboard and tips on navigating; where to find what \(Power Point\)](#)

Any Comments or Questions?

- Cross Jurisdiction Directory
- Alerting
- Secure Collaboration
- Procedures
- Resources
- Event Information
- Training materials