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I. Summary of Informatics Planning for Pandemic Influenza

The NYSDOH Pandemic Influenza Informatics Plan leverages the existing public health preparedness information systems on the NYSDOH Health Commerce System (HCS) for planning, communications, surveillance, and response activities during an influenza pandemic. These systems and their respective summary reports, charts and maps will be accessed by program areas, executive leadership staff, and other responders on a 24/7 basis for ongoing situational assessment and decision support. The systems and their general functions are summarized in the following table and presented in detail in Parts II through VI of this Section.

Public Health Preparedness (PHP) systems (Table 1) on the HCS will be used to detect and monitor disease trends during a pandemic of influenza. These systems monitor spatial, temporal and infection rate patterns. The detection of an unusual event may trigger activation of enhanced surveillance and tracking systems. Event detection and routine surveillance systems include reporting of laboratory test results through the Electronic Clinical Laboratory Reporting System (ECLRS); suspect and confirmed human case reporting through the Communicable Disease Electronic Surveillance System (CDESS); hospital patient admissions reporting using the Health Emergency Response Data System (HERDS); Emergency Department (ED) syndromic reporting for unusual clusters of symptoms and chief complaints; long term care facility disease reporting using HERDS and the Nosocomial Outbreak Reporting Application (NORA); and reporting by other facilities including home health care, adult homes, primary care clinics and schools using the HERDS system. An integrated avian, mammal and vector surveillance system provides for reporting and surveillance of non-human outbreaks.

The HCS Integrated Health Alerting and Notification System (IHANS) will be used for all health alerting and notification. Contact and role information used by IHANS will be derived from the HCS Communications Directory (ComDir). Additionally, the NYS Department of Agriculture and Markets will share data and alerts on avian influenza and influenza in mammals through IHANS.

In a PHP event, all HCS participant organizations will be provided situational awareness through an open event-specific web site established within the HCS Portal, as was the case during the first time emergence of West Nile virus in 1999¹. The event website provides timelines, updates, response protocols, plans, procedures and links to data and

¹ Gotham I, Eidson M, White D, et al. West Nile Virus: A Case Study in How NY State Health Information Infrastructure Facilitates Preparation and Response to Disease Outbreaks. *J Public Health Management Pract.* 2001; 7(5): 75-86.

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applications needed in the response to the event. Executive level decision support and situational awareness is achieved through an Executive DashBoard (EDB), providing summary level visualization and integration of data feeds from response systems such as HERDS, CDESS, ECLRS via drill down charts, graphs and maps. Access to the EDB is limited to key executive roles in ComDir for participating LHDs, hospitals state and regional health offices and other response partner organizations. IHANS notifies HCS organizations on activation of the event-specific website and EDB.

Once the presence of novel influenza has been detected, CDESS will be used to track cases and manage information on contact tracing and quarantine, travel history, and case isolation. CDESS data will be available in maps and statistical reports using the Commerce spatial data warehouse, the GIS system, and executive dashboard decision support system. Health facility needs and available resources (airborne isolation rooms, staff, beds, and equipment) and patient traffic will be tracked through the HERDS system. HERDS patient tracking and locator systems will assist the public in locating family members and tracking bodies of the deceased in mass mortuary locations.

A Counter Measure and Response Tracking System (CMRTS) will support vaccine and antiviral inventory tracking, SNS resource tracking, and adverse event monitoring and be integrated with the Clinic Data Management System (CDMS) for mass administration of vaccine or antivirals. The Commerce Professional Medical Volunteer System and NYSDOH emergency contact and volunteer database system will be used to maintain a roster of medical professionals for medical surge and POD administration.

Table 1. Public Health Preparedness Systems Available on the NYSDOH Health Commerce System

Function	NYSDOH Health Commerce System to be Used	Informatics Chapter 13 Section
<p><u>Command & Control</u></p> <ul style="list-style-type: none"> Incident command Critical contact information 24/7 Communications, Emergency Notifications and Alerting Situational Awareness 	<ul style="list-style-type: none"> Team room software for situational report collaboration; Finalized Situation reports distributed through Commerce Executive Decision Making Dashboard and Commerce notification system structure. NYSDOH Commerce Communications Directory Integrated Health Alert and Notification System (IHANS) and NYSDOH Duty Officer, Secure discussion Forum, Webinar and Statewide Video-conferencing system Executive decision making dashboard, GIS spatial, static and time series analyses 	<p>IV.1.c, III.A.1-2, III.B.6</p>
<p><u>Surveillance</u></p> <ul style="list-style-type: none"> Event detection 	<ul style="list-style-type: none"> ED chief complaint data, RODS, Medicaid prescriptions, County unusual ED admission clusters tracking application NORA (hospitals, nursing homes) ECLRS confirmed positive specimens; CDESS suspect and confirmed case tracking HERDS weekly summary of influenza cases; deaths at hospitals, clinics, home health care, and adult care facilities HERDS and CDESS GIS spatial visualization of the data 	<p>III.B.1-2</p>
<ul style="list-style-type: none"> Enhanced Surveillance. In-depth person-based case tracking & surveillance supplement (influenza vaccine & antiviral history, hospitalization, isolation, travel) & contact tracing 	<ul style="list-style-type: none"> CDESS (laboratory confirmed & suspect cases) ECLRS - Laboratory test confirmation 	<p>III.B.2</p>
<ul style="list-style-type: none"> Outbreak tracking -- Daily/Weekly tracking of total case numbers and disposition across all facility types 	<ul style="list-style-type: none"> HERDS daily or weekly summary of cases; deaths at hospitals, clinics, home health care, and adult care facilities Nursing Home Surveillance and Response System (NHSRS) daily case summary, deaths 	<p>III.B.3</p>
<ul style="list-style-type: none"> Laboratory Response Network communications; electronic laboratory specimen test referral 	<ul style="list-style-type: none"> IHANS 	<p>IIIB.2</p>
<p><u>Risk Communications</u></p> <ul style="list-style-type: none"> Communications with important private sector contact points; special needs population Locating patients in facilities by relatives (the public) Summary data regarding pandemic spread; other resource information Training, procedures, educational resources on the web for providers, public health officials 	<ul style="list-style-type: none"> IHANS Communications directory maintenance of key contact information HERDS patient locator module Commerce data system summaries developed through GIS and statistical summaries provided to public website; HAN, HPN and HIN specific resource pages 	<p>III.B.3, IV.1.h</p>
<p><u>Healthcare Response</u></p> <ul style="list-style-type: none"> Facility Resource Tracking/management (personnel, pharmaceuticals, vaccine/anti-viral inventory, supplies, bed/surge capacity, equipment (ventilators)) Laboratory capacity, resource needs; Community and facility based containment measures; infection control and isolation capacity Patient tracking; tracking of mass mortality 	<ul style="list-style-type: none"> HERDS system for health facility reporting including hospitals, clinics, local health departments, pharmacies – Critical Asset Survey forms Nursing Home Surveillance and Response System (NHSRS) Specific HERDS system surveys and forms for LRN resource tracking Specific HERDS system forms designed for facility tracking; HERDS AIIR room capacity survey; NHSRS surveys; and NORA HERDS patient tracking module 	<p>III.B.4-6</p>
<p><u>Countermeasure Administration & Response</u></p> <ul style="list-style-type: none"> Vaccine and antiviral needs Risk group assessment Tracking of vaccination and antiviral inventory and distribution adverse event tracking vaccination and anti-viral supplies SNS tracking for POD asset needs mass clinic administration 	<ul style="list-style-type: none"> HERDS, HEARTS architecture Clinic Data Management System (CDMS); 	<p>III.B.4-6</p>
<p><u>Volunteer Rosters</u></p>	<ul style="list-style-type: none"> The Professional Medical Volunteer System and NYSDOH Emergency contact and volunteer database system 	<p>IV.2.g</p>

II. Overview

A. Purpose

NYSDOH has evolved an array of informatics capabilities, which support preparedness and response to PHP events, including Pandemic Influenza. These include the NYSDOH secure Health Commerce System (*HCS*), its related applications and information systems as well as supportive infrastructure related to alerting and notification; distance learning and remote meeting/collaboration; and availability/recovery. NYSDOH *core internal information infrastructure systems* are also essential to the Agency's response to any event. These systems include: *lotus notes office automation; network management and services (internet services, external e-mail routing, WAN/LAN interconnectivity); availability and recovery, alternate interoperable communications, critical server management and operation; and security infrastructure*. The purpose of this Section is to describe these capabilities and how they are to support the NYSDOH planning, preparedness and response to a pandemic influenza event.

B. Overall Responsibility

Bureau of Healthcom Network Systems Management (BHNSM) within the Information Systems and Health Statistics Unit (ISHSG) has the overall technical and project responsibility for Public Health Preparedness (PHP) Informatics applications, HCS infrastructure and *core internal information infrastructure systems*. BHNSM is responsible for all of the systems listed above with the exception of Security Infrastructure, which is partially shared with the Security Unit within the Healthcom Services Bureau (HSB) within ISHSG.

The Security Unit is responsible for overall security Policy, intrusion detection/vulnerability assessment, remote access/VPN, NYSDOH authentication and identity management, change control management over security architecture and rule sets. BHNSM works with HSB in operating and implementing security policy rule sets within specific electronic architecture devices.

C. Incident Command/Response and Alert Notifications

Notification processes are in place to activate response within BHNSM in the event of infrastructure problems/failures, PHP events, receipt of Health Alert Network notifications (aka HAN alerts) or emergent HCS or HAN posting requests. BHNSM maintains two 24/7 on-call rosters: one for response to infrastructure problems and the other, the 'HAN On-Call' roster for response to program area requests regarding emergent PHP events and off-hours HAN postings. An incident commander is established in the event of a critical service outage or in a PHP event. These are identified in Appendix 13-A and Table 2.

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The infrastructure on-call roster is accessible during off-hours through the BHNSM main number (see Appendix 13-A). Automated processes monitor viability of critical systems within the agency network and within the commerce system. An automated notification is sent to the infrastructure response on-call roster and the incident commanders in the event of an outage or problem with these systems. The HAN coordinator and HAN-on-call roster is accessible through the contact information provided in Appendix 13-A, (ComDir) and via automated health alerting processes as described below.

There are several pathways for health alerting, and/or notification of need for posting of a health alert. Specific external entities (CDC HAN, CDC Epi-X, CDC/Other, NYS OHS, NY City DOHMH) may send an alert notification or alert content for posting on the NYS commerce HAN to Health Alert BML (healthalert@health.state.ny.us.) This will trigger automated notification of the Public Health Preparedness Unit (Appendix 13-A) who will review the notification and post on the NYS HAN system using the Commerce Alert Tool. The PHP Unit may also forward the posting responsibility to the 'hinweb' BML (hinweb@health.state.ny.us) which will in turn trigger automated notification of the HAN Coordinator and HAN on-call roster for posting using the alert tool. Specific DOH executive staff (Appendix 13-A) may directly request posting of an alert to the NYS HCS HAN by forwarding the content and request to hinweb, which will in turn trigger an automated notification to the HAN on-call staff to post the alert.

Request for posting of an alert and/or notification of alert situations may also be made to NYSDOH using the Duty Officer System (Appendix 13-A). Regional Offices and Local Health Departments (LHDs) may also use the IHANS to initiate alerts and advisories within their regions or jurisdictions.

D. NYSDOH Health Commerce System

1. Background

NYSDOH Health Commerce System (HCS) is a multi tiered architecture (Figure 1) and functionally compliant with national interoperability standards². HCS operates within an informatics framework supporting preparedness functions as describe by DHS and CDC³. The framework supports a diverse set of applications, cross-cutting

² Loonsk, J. W., McCarvey, S. R., Conn, L. A., and Johnson, J., 2006, The public health information network (PHIN) preparedness initiative, *Journal of the American Medical Informatics Association*. **13**(1): 1–4.
Health Information Technology Standards Panel (HITSP), Biosurveillance-Connecting to Clinical Care (HITSP/IS-02), ANSI website, (October 1, 2007); <http://publicaa.ansi.org>.
Organization for the Advancement of Structured Information Standards (OASIS), CAP 1.1 OASIS Standard, OASIS website, (October 1, 2005a); <http://www.oasis-open.org/committees/download.php/14759/emergency-CAPv1.1.pdf>.
Organization for the Advancement of Structured Information Standards (OASIS), EDXL-DE 1.0 OASIS Standard, OASIS website, (October 1, 2005s); <http://www.oasis-open.org/committees/download.php/18772/EDXL-DE%201.0%20Standard.pdf>.

³ Department of Homeland Security (DHS), The National Preparedness Guidelines (September 13, 2007c); http://www.dhs.gov/xlibrary/assets/National_Preparedness_Guidelines.pdf.
Centers for Disease Control and Prevention (CDC), Continuation guidance for cooperative agreement on public health preparedness and response for bioterrorism—budget year five (2005); <http://www.bt.cdc.gov/planning/coopagreement/#fy05>.

the scope of routine health exchange activities including: disease case and lab reporting, vital records, health care finance, health care utilization, managed care, medical conduct, controlled substance prescription reporting, licensed practitioner prescription pad orders, heavy metal and lead poisoning registries, malformations and cancer registry reporting, environmental and clinical laboratory proficiency reporting. In total HCS currently supports some 200 health information applications, 75,000 users and 15,000 participant organizations⁴. Given this mission, the HCS architecture is multi-tiered, highly-available and includes full off-site disaster recovery capacity (Figure 1). HCS is accessible via the internet and by other alternate venues supporting IP protocol communications. The commerce system is available at <https://commerce.health.state.ny.us>.

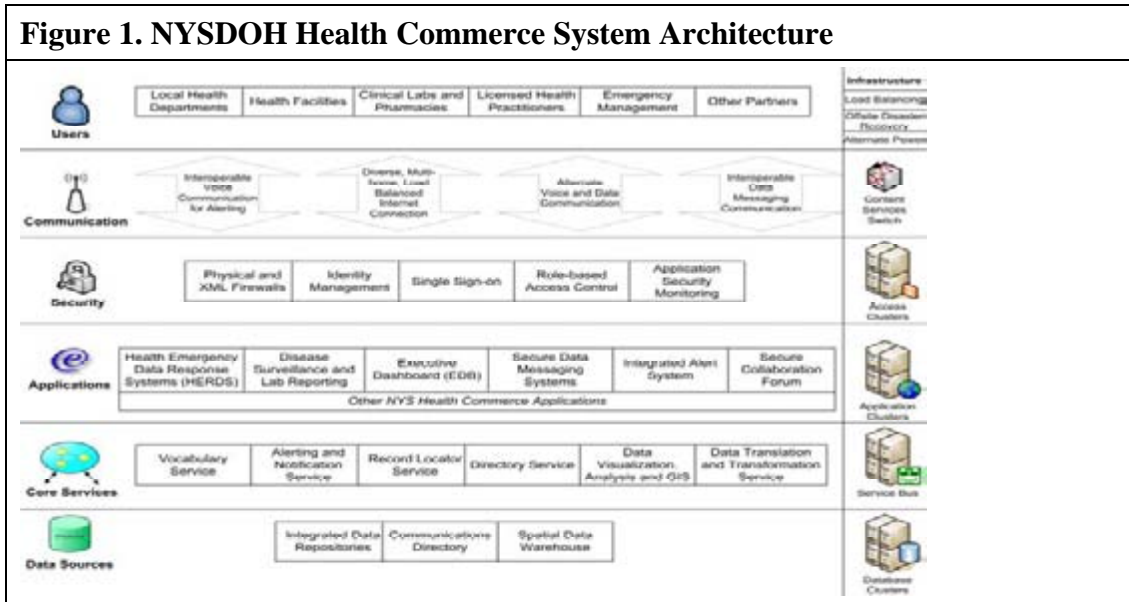
Health information exchange applications on HCS utilize shareable core integration services for generic functions such as notification/alerting, communications directory (ComDir) services, secure collaboration, GIS and data visualization (see Figure 1). ComDir is a centralized repository of role and contact information. Directory coordinators at each HCS organization assign their users to functional roles within their view of ComDir and maintain their contact information for both routine and emergency communications. The health alerting system uses contact information from the ComDir to notify targeted organizations and appropriate functional roles within those organizations using automated phone calls, e-mail, fax and secure web postings (Figure 1). Access control is single sign-on and role based. Role assignments made in ComDir by coordinators at participant HCS organizations enable access to application roles, data and information appropriate to that organization. Access is conveyed instantaneously once a coordinator assigns their user to a ComDir role. Distributed access control allows the organization to assure appropriate access to applications and information within their organizational hierarchy. Access rules within the HCS information structure provide both open and restricted access to information, data and applications. Applications and information provision systems with restricted access use a hierarchical model to enable both vertical and horizontal flow information appropriate to organization type and roles within that organization⁵.

Centers for Disease Control and Prevention (CDC), The 10 Essential Services of Public Health, <http://www.cdc.gov/od/ocphp/nphpsp/EssentialPublicHealthServices.htm#es1>.

⁴ Gotham I., Sottolano D., Hennessy N., Napoli J., Dobkins G., Le L., Burhans R., Fage B., 2007, An integrated information system for all hazards health preparedness and response, New York State Health Emergency Response Data System (HERDS), *Journal of Public Health Management and Practice*. 13(5): 487–497.

⁵ Gotham I., Sottolano D., Hennessy N., Napoli J., Dobkins G., Le L., Burhans R., Fage B., 2007, An integrated information system for all hazards health preparedness and response, New York State Health Emergency Response Data System (HERDS), *Journal of Public Health Management and Practice*. 13(5): 487–497.

Gotham I, Smith P, Birkhead G, Davisson M. Policy Issues in Developing Information Systems for Public Health Surveillance of Communicable Diseases. In: O'Carroll P, Yasnoff W, Ward E, Ripp L, and Martin E, editors. *Public Health Informatics and Information Systems*. New York: Springer-Verlag; 2003: 537-73.



2. Basis

In 1996, NYSDOH Commissioner of Health memorandum (DOHMEM 96-10) promulgated the HIN as the official Department platform for health information interchange with LHDs. This was endorsed by the New York State Association for County Health Officers (NYSACHO) in 1996. Organizations and individuals joining HCS are required to execute organization and user agreements covering security, data sharing and non-disclosure (see Appendix 13-B).

In 2003, a Commissioner memorandum promulgated the Commerce Health Emergency Response Data System (HERDS), its GIS, and the ComDir and alerting system as the Official Health Response communications system for health events to local health, hospitals, SEMO and County Emergency Managers. In 2004, NYS Public Health Law (Section 400.10) was amended to require all Article 28, 36, 40 facilities to use the HCS, maintain an available cadre of active users on the system, maintain ComDir information up to date and abide by the terms and conditions of the HCS security, use and non-disclosure agreements. Oversight of the HCS system is a shared governance process with Healthcare and local health department association partners. Ongoing hands-on training sessions and drills reinforce skills in the use of the systems. These partner groups also assist with coordination of drills, training and requirements gathering. On-line tutorials and reporting guidelines are available on the HCS training web site. A dedicated accounts and help desk unit supports HCS account sign-up and user assistance.

3. Capacity and Scope

The Commerce system and the applications within its domains provide both routine and PHP-related information interchange for all regulated health facilities and health related providers of health services in NYS (Figure 1). All local health Departments (including NY City DOHMH), regulated health facilities (e.g. hospitals, nursing homes, home health and personal care, clinics) use the system. Licensed practitioners and their practices (physicians, dentists, veterinarians, nurse practitioners), NY state agencies and other state health departments in the Northeast region have access to the system. Details on demographics and PHP partner organizations using the HCS system are provided in Appendix 13-C.

4. Support for Health Preparedness

HCS is an ideal platform for health preparedness, given its overarching informatics framework and routine use by the universe of health partner organizations who would also be needed to facilitate detection and, or, support response to a health event or emergency. As such NY State has evolved a core set of interoperable PHEP workflows within HCS (Figure 1) and also instantiated the capacity for automated exchange of standardized surveillance and response data with external entities such as national infectious disease informatics portals and Federal health care resource portals⁶. The HCS preparedness systems have supported statewide response to emergent infectious disease events, emergency disaster declarations, health resource shortages, elevated national threat levels and high profile security events. The HCS infrastructure is an integral component of NYSDOH incident management process and PHP plans.⁷

Health Alerting and other notifications occur through the HCS Integrated Health Alerting and Notification System (IHANS)⁷ using contact information derived from ComDir to notify appropriate roles and organizations that secure alert document

⁶ Zeng, C. H., C., Larson, C., Eidson, M., Gotham, I., Lynch, C., Asher, M., WNV-BOT Portal project summary, ACM International Conference Proceeding Series, Volume 262, Proceedings of the 2004 annual national conference on Digital Government Research, Seattle, Washington, May 24-26, 2004.

Zeng, D., Chen, H., Lynch, C., Eidson, M., Gotham, I., 2005, Infectious Disease Informatics and Outbreak Detection, "Infectious Disease Informatics and Outbreak Detection" in: Chen H., Fuller, S., Friedman, C., Hersh W. *Medical Informatics: Knowledge Management and Data Mining in Biomedicine*, Springer: New York, pp. 359-395.

Agency for Healthcare Research and Quality, National Hospital Available Beds for Emergencies and Disasters (HAvBED) System: Final Report, AHRQ Publication No. 05-0103, Rockville, MD. (December 2005); <http://www.ahrq.gov/prep/havbed/>.

⁷ Gotham I., Sottolano D., Hennessy N., Napoli J., Dobkins G., Le L., Burhans R., Fage B., 2007, An integrated information system for all hazards health preparedness and response, New York State Health Emergency Response Data System (HERDS), *Journal of Public Health Management and Practice*. 13(5): 487-497.

Gotham I, Eidson M, White D, et al. West Nile Virus: A Case Study in How NY State Health Information Infrastructure Facilitates Preparation and Response to Disease Outbreaks. *J Public Health Management Pract*. 2001; 7(5): 75-86.

Gotham I, Smith P, Birkhead G, Davisson M. Policy Issues in Developing Information Systems for Public Health Surveillance of Communicable Diseases. In: O'Carroll P, Yasnoff W, Ward E, Ripp L, and Martin E, editors. *Public Health Informatics and Information Systems*. New York: Springer-Verlag; 2003: 537-73.

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content has been posted on the HCS health alert network (HAN) file viewer. Notifications are sent using multiple pathways including automated phone calls, e-mail and fax. On receiving a notification, users in the notified roles log into the HCS system, access the HAN file viewer and download the alert document.

Electronic disease case reporting in NY State occurs through the HCS Communicable Disease Electronic Surveillance System (CDESS)⁷, where LHDs statewide report detailed patient demographics and disease-specific supplemental data for 65 reportable disease conditions. CDESS also supports contact tracing activities and is integrated with a standards-based, Electronic Clinical Laboratory Reporting System (ECLRS)⁷. Electronic reporting of test results to ECLRS by clinical labs is mandated by public health law in NY State⁸. Positive test results for reportable disease conditions are transmitted by hospital, commercial and public health laboratories to ECLRS and automatically routed to LHD of jurisdiction for case establishment or conformation. IHANS automatically alerts county of jurisdiction on receipt of high priority disease conditions. The NYSDOH Wadsworth public health laboratory is a reference laboratory and part of the CDC Laboratory Response Network (LRN). Its Clinical Laboratory Information Management System (CLIMS) accessions and tracks test results on specimens submitted to the laboratory and also reports electronically to ECLRS.

Health care response in NY is supported by the HCS Health Emergency Response Data System (HERDS)^{7, 9}. HERDS is a statewide dynamic data reporting and visualization system supporting surveillance reporting (e.g. event related patient admissions, deaths and ED traffic), resource and asset tracking, surge, bed availability, event patient tracking and medical counter measures needed and available at health care facilities. Data reported into HERDS by health care facilities is immediately available to LHDs, as well as regional and state health jurisdictions for planning and response. HERDS data is also available to the state and local incident command process for planning, allocation and distribution of state and federal stockpiled inventories of resources in an emergency. HERDS has been used in response to emergency disaster declarations, responding to health care resource shortages, in exercises, tracking bed and resource capacities, and ongoing reporting activities such as influenza and bed availability surveillance (Gotham, 2007). It is currently deployed to all hospitals, nursing homes, adult and home care facilities, clinics and public schools statewide.

In an actual health event, NYSDOH activates a dedicated, open, web site within the HCS portal system to provide general situational awareness to the HCS community

⁸ NYS Public health law 576-C, 2007. Electronic reporting of disease and specimen submission; <http://public.leginfo.state.ny.us/menugetf.cgi>.

⁹ Tanielian T., Ricci K., Stoto M., Dausy D., Davis L., Myers S., et al., 2005, *Exemplary Practices in Public Health Preparedness*. Sponsored by the US Department of Health and Human Services Office of the Assistant Secretary for Public Health Emergency Preparedness, Contract No.: 282-00-000-T11, RAND Corporation, RAND Center for Domestic and International Health Security, Santa Monica, California.

at large, as was the case during the first time emergence of West Nile Virus in 1999⁷. The event website provides timelines, updates, response protocols, plans, procedures and links to data and applications needed in the response to the event. Executive level decision support and situational awareness is achieved through an Executive DashBoard (EDB), providing summary level visualization and integration of data feeds from response systems such as HERDS, CDESS, ECLRS via drill down charts, graphs and maps (See Appendix 13-D). Access to the EDB is limited to key executive roles in ComDir for participating LHDs, hospitals state and regional health offices and other response partner organizations. IHANS notifies HCS organizations on activation of the event-specific website and EDB.

III. Informatics and Technology Systems Support for Key Aspects of Programmatic Planning and Response

A. Ensure Continuity of Operations of State Agencies & Continuity of State Government (See Appendix 13-H for technical acronym list)

1. Availability and Disaster Recovery

a) Overview

BHNSM is Should a pandemic of influenza occur, BHNSM will function in two roles:1) Assuring the agency's core internal information infrastructure systems needed to respond to the event remain operational(e.g. HCS, HAN, notes office automation, network services and communications) and 2) providing direct PHP applications informatics support to program areas responding to the event. BHNSM has built systems that are fault-tolerant, operate automatically and use standards for easier to support. Unplanned downtime has been rare.

The Commerce Application Development and Informatics Unit have developed a cadre of PHP applications (e.g. HERDS, IHANS, ComDir) that will be used by NYSDOH and its response partners on the HCS (see Appendix 13-C) a PHP event such as pandemic influenza.

BHNSM's primary infrastructure support mission will be to keep operations in the NYSDOH primary infrastructure site (PS) at the Empire State Plaza stable and be prepared to switch to the disaster response site (DR) collocated with the agency's Health Operations Center (HOC) at 800 North Pearl in Menands.

To accomplish this, BHNSM staff and their families must be kept healthy for work and should be availed with access to antivirals and medical countermeasures as early as possible in the event. Social distancing in time and space will be used to minimize exposure potential for critical staff. Infrastructure support staff who must come on site for hardware maintenance operations will do so on separate shifts. Those who do not will work from home using remote VPN connections over home Internet connections or dialup modem (24 lines).

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The PS is in a public location and BHNSM staff and NYSDOH responders will be moved as necessary to the HOC and other BHNSM offices in the more isolated DR building. The offices at the DR site are equipped with PCs and network communications to the Internet and NYSDOH. All email and access to HCS is available on site. NYSDOH program areas routinely hold meetings in the HOC and are familiar with the facilities.

Pan Flu planners foresee that public services may be interrupted during a PAN flu outbreak. The PS Infrastructure depends on outside services such as:

- Electrical Power
- Chilled water for cooling of computer equipment
- Network connections to the Internet and the NYeNET
- Voice communications
- Hardware support

Operations will be switched to the DR site, should a persistent interruption of these services cause operations in the PS to fail. The change in the situation may come slowly or suddenly as when power, chilled water or communications come to a halt without warning. In this event, BHNSM on consultation with the Overall NYSDOH Incident Command Process will activate an internal Incident Command (IC) process to manage the DR plan's execution: circumstances evaluated, communication channels opened, resources marshaled and orders given.

The DR site contains generated power, redundant communications, satellite and radio communications, data backups, computer systems and office locations to continue essential services.

b) **Communications**

NYSDOH program areas responding to the event or carrying out critical program operations, will be socially distanced by working from home using home Internet connections. NYSDOH supports a capacity of 500 SSL browser sessions, 1,500 VPN sessions and up to 60 Mbps of ISP service. The Notes Domino server supports 1500 active users. The capacity will be reduced by 50% when operating out of the DR site only. To conserve bandwidth as needed, the work hours will be organized into 2-3 shifts. Restrictions will also be placed on the applications available to users.

The videoconference bridges at the PS and DR sites will be used to host telephone and video based conferences in support of virtual HOC operations and social distancing of key agency executive decision makers and external response partner organizations. Up to 190 calls in 32 conferences will be available from both sites combined. The bridges will be programmed to send out an alert message on a pre-recorded message and invite people to join a conference. They will also be used with C-band satellite dish to distribute broadcasts with emergency programming.

Voice communications is crucial to the handling of an emergency. Planners believe that landline phone service may be reduced. The DR site is equipped with alternative ways to communicate: a satellite phone system; HF radio to communicate to the CDC and other parts of the US; amateur radio links to RACES, radio over IP and ISDN phone service. Equipment and staff are tested on an ongoing basis. Videoconference bridge and presentation equipment will be used for phone and video-conferences. It is connected to the C-Band satellite.

c) **Support Pan Flu Response**

The following systems will be used by DOH to support the Pan Flu response. The systems will have numerous communication alternatives that will be used as landline communications fail.

- i. **Emergency ComDir** – Will provide lists of up-to-date office and home contacts of employees selected by work location, work unit or specialized skill.

Example: Use ECD to produce of home phone and email of a specific building and send message to not come to work.

Example: Use UCD to report DOH employees with a special skill needed for the outbreak. The info will allow the volunteers and their supervisors (for approval) at home.

- ii. **Virtual HOC** – The DR bridge system will support conferencing between executive decision makers within the NYSDOH ICS and with external response partners.

Example: Use ComDir data and IHANS to send notifications by available means to conference participants. The participants will be directed to join a phone (or video) conference sponsored on the DOH bridge. In the event of IHANS failure, the bridge will be used to notify participants as needed. An external alerting service provider, AMFAX, has been contracted to provide alternate alerting infrastructure should local internet service fail. In this case AMFAX would be accessed for alert transmission via the Satellite IP service at the DR site. Participants will use their home Internet connection to use Commerce; or, with VPN access Notes.

Example: DOH will use the alert system (or bridge) to send a message to participants to report a needed statistic. They will call the bridge and leave a voice message with the result.

- iii. **Situational Awareness** – Pan Flu responders will use satellite phone, radio, radio over IP, satellite reception, IVR messages and Commerce applications like HERDS to explore and develop information about the development of the outbreak. Responders and partners will use Internet access and Blackberrys to consult Commerce.

- iv. **Data reporting and exchange.** The PHP applications on the HCS system provide the normal venue for PHP related data reporting and

exchange. HCS is accessible via IP using dedicated internet service, ISDN and the statewide private SONET NYeNET interconnect. It is also accessible via wireless devices such as RIM/blackberry, Windows mobile devices and iphone. NYSDOH's internet service infrastructure is dual homes to separate ISPs and Cos. Should these fail, the DR site will utilize it's Satellite ISP service for support HCS availability. Should internet service be diminished SOPs will be used to support data reporting and communications over the conference bridge, the IVR system and HF radio equipment at the DR site.

d) **Overview of Plan Steps for DR Site Activation and Recovery**

1. Activate Bureau Incident Response
2. Assessment of the Situation and briefing of Executive staff.
3. Executive Decision to activate DR Site.
4. Declare and alert programs of intent to activate disaster recovery site (DR)
5. Activate DR
6. Operate DR
7. Re-build primary site (PS)
8. Assess readiness of PS
9. Executive decision to Declare return service to PS
10. Restore service to PS

e) **Purpose of Plan**

The purpose of this plan is to maintain the highly available computer and communication systems essential for the New York State Department of Health (NYSDOH) to perform its core function to protect the health of NYS residents. The essential systems are operated out of the primary site (PS). The following systems will be used by DOH to support the Pan Flu response. The systems will have numerous communication alternatives that will be used as landline communications fail.

Concourse Room 148
Empire State Plaza
Albany NY, 12237-0021
518.473.1809

In the event of PS failure, COOP uses the disaster recovery (DR) plan that details the actions necessary to recover essential business services at the DR site,

800 N Pearl
Albany NY, 12204
518.474.4662 / 518.402.1350

A restoration section of the plan is for re-establishment of services back to the PS once the DR site is no longer needed.

f) **Responsible Parties**

The Bureau of HEALTHCOM Network Systems Management (BHNSM) is

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responsible for development, maintenance and operation of the agency’s critical infrastructure. This includes agency wide network management and services, Notes, critical server and databases systems, Health Commerce operation/management (HIN/HPN), Commerce accounts unit, Commerce development, Hospital Emergency and Research Data System (HERDS), disease surveillance and health alerting infrastructure (Alert System). It will be responsible for implementation of the COOP for these systems.

On Call Support – BHNSM maintains a 24 x 7 on call roster for problem response. Procedures are in place for detecting and triaging infrastructure and Public Health Problems (PHP) problems and determining if 2nd or 3rd tier response is required. In the event of a serious problem or outage an incident commander is designated/ contacted.

Contact Info:

Table 2. On Call Roles and Contact information		
On Call Contact 24 x 7	Primary contacts (Alternates available through on call process)	518-473-1809 (After hour emergency contact routing is available at this number)
Primary Incident Commander (IC)	Ivan Gotham	
Backup IC:	Scott Stagnitta	
Network Systems	Janet Fisher	
Server Systems	Ron Stamp	
Commerce management /development including infrastructure and development support for: <ul style="list-style-type: none"> • HERDS • HAN • CDESS • ECLRS • Pandemic influenza (PAN flu) • Executive dashboard • Arbovirus surveillance (human, bird, animal, vector) • Emergency professional medical contact database • DOH emergency contact data base • ComDir 	Jay Barkenhagen	

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Office Automation management and support	Barry Krawchuk, Joy Mastropietro	
Security UNIT/ Healthcom Services Bureau (HSB)	Chris Stanley (HSB)	
Operations Unit	Colleen Fiato	
Informatics Unit/Health Alert Network Coordinator	Deb Sottolano	

g) **Assumptions**

The draft DR plan as versioned on Dec 15, 2007.

- The BHNSM and Security staff is available (on site or remotely) for the event.
- The instructions in the DR plan are written for BHNSM and Security Staff that maintain and operate the DOH Healthcom infrastructure, not for use by individuals unfamiliar with the systems and architecture.
- All operations at the primary site are stopped and not available.

All equipment and operations at DR site are fully functional. This includes: All operating systems are ready, PCs at DR site work and access to outbound Internet being available.

h) **Availability** -- NYSDOH has a high availability and offsite Disaster Recovery infrastructure co-located with the Health Operations Center (HOC) site.

i. **Problem Detection and Response.** NYSDOH maintains a 24/7 on-call roster for technology infrastructure. The contact point for the roster is available per the contact information in Appendix 13-A and Table 2. The roster provides first tier response for technical problems and health events such as HERDS activation. First tier has specific protocols for problem diagnosis, response and escalation/activation of 2nd and 3rd tier responses. Critical hosts, (e.g., commerce and lotus notes servers and related network gear), are monitored by automated processes. Automated message alerts are sent to On-call and technology-related incident command roles on host failure or availability problem. Depending on severity, alerts are also sent to an independent monitoring and call down service, which also manually initiates call down to appropriate 2nd and 3rd tier incident commands. Technology Infrastructure on-call roster is also copied on health alert notifications from hinweb@health.state.ny.us

ii. **High Availability at Primary Site**

1. DOH uses high availability cluster technology for both the PS and DR site application tier and database tier servers for Commerce (see Figure 1). Database and application tiers are replicated at the file system level between PS and DR. Redundant first tier proxy servers are load balanced via context switches between PS and DR

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2. Office automation (Lotus Notes) is clustered and replicated using Notes clustering software to automatically failover to the DR site. Information is continuously replicated between both sites as needed.
3. Commerce systems are available via dual-homed ISP as well as on the private statewide fiber optic network (NYeNet), via direct ISDN dial up and dial up via landline telephones (POTS).
4. Internet service is dual homed from two major carriers, AT&T and Time-Warner. The service is provided by dedicated optical fiber from the central offices. For AT&T to the State St. office of Verizon, and for Time-Warner to the two major nodes on a dual fiber ring SONET.
5. PS equipment is on a 120 KVA UPS. A transfer switch will automatically switch power to a different substation on failure of the first electric substation.
6. Critical Equipment is outfitted with dual power supplies and connected to five independent power distribution units (PDUs), two from PDI and three from United Power.
7. An inventory of spare network equipment is kept on hand for rapid replacement

i) **Accessibility**

i. **Commerce and Notes Access.** The commerce system is accessible using IP/web protocol via multiple diverse pathways. Multiple Production Internet provider services are dual homed and available at alternate sites (primary at the ESP and DR at 800 North Pearl). Commerce is also accessible via the NYeNet interconnect as well as via direct ISDN dial-up. LHDs have acquired alternate (secondary) means of internet service and have the capacity to use the VideoConference(VC) ISDN communications to access commerce. The communications capacity established to support VC for LHDs is also outfitted with multiplexor, router and switches to allow the VC ISDN communications as a mechanism for non-internet-based access to the commerce system. Each hospital's capacity for potential alternate data communications with Commerce is reported and available for review through the HERDS Critical Asset survey. All NYSDOH Regional Offices have alternate communications capacity to (re) establish network connectivity to NYSDOH internal network communications to the DR site and commerce and Lotus notes. VPN access is also available to NYSDOH staff for remote access to the DR site.

j) **Essential and Non-essential Services**

In the event of a failure the following essential business services will be activated at the DR site:

i. **Services**

- **Tiered System.** The Commerce web systems (all three tiers) will be used by DOH's business partners on the Internet (and NYeNet as available) and by staff at the DR site (see timetable). With advance

notice, the Veritas Global Cluster (VGC) will be used to switch processing with live data within minutes to the DR site and take one hour when there is no warning. Public web site will be included.

Assurance: The web server and database servers are supported by VGC and RAC over both sites. Operations are switched between sites for upgrades or down for some unexpected reason.

- **Office Automation.** Notes is clustered at both the PS and DR sites and is automatically available to staff at the DR site. Users transferring from site to site will not see any loss of email because Notes cluster replication makes copies to the other site constantly. When the NYeNet is operating, Notes will be available to the other DOH offices. A new Notes server will be constructed and loaded from the complete tape backup kept at DR site as necessary.

Assurance: The reliability of Notes cluster failover has been demonstrated when servers or network connections failed or needed maintenance

- **Remote Access.** Notes can be used securely from any remote connection on the Internet using a browser through the inbound https portal authenticated using RSA/SecurID. Two web applications are available, iNotes and WebMail. WebMail is suited to use on slow dialup Internet Service Providers (ISPs).

Assurance: The access is used by DOH staff as part of standard operations. A server is dedicated to its use

- **Alerting Infrastructure.** The alerting system uses the Commerce Directory for communicating alert messages. The system will send messages by the available means by calling multiple phone numbers (up to 90 simultaneously) and pagers or sending email and faxes. The application tracks the progress and success of the alert.

Both PS and DR sites have an Avaya Interactive Response (IR) voice system and 2 T1 lines to provide 48 phone lines. Five lines are reserved for the DOH Duty Officer. There is a text to speech converter on each IR system.

To support faxes, there is Castell FaxPress server at both sites connected to a 24 line T1 circuit. Four lines receive faxes, four lines for send and the rest are bidirectional.

There is an SMTP gateway for the transmission of email at each site that operates independently.

An Oracle 10g database contains the ComDir. It supports message queues for the email, fax and voice messages. The alert tool in Commerce loads XML messages into the database for sending. The Oracle db is replicated between both sites with DataGuard.

Assurance: The systems are load-balanced across both sites and work independently as needed. The alert system is used as part of standard operations. DOH and its customers are drilled regularly

- **AMFAX Alerting/Notification Continuity.** Should the alert system fail, a notification is generated via a touch-tone phone to AMFAX, a

notification service contracted by the NYSDOH to provide backup alerting. The list of contacts is forwarded to AMFAX using the Internet, via the satellite ISP as necessary.

Assurance: AMFAX is equipped with 44,000 telephone lines nationwide and operates 7 x 24. When a loss service occurs at the main site in Tinton Falls, calls are forwarded to Malaysia or Ireland. The call progress is then monitored from York, UK

- **Blackberry.** DOH has assigned 248 Blackberries to critical staff. The Blackberry servers are maintained and use the Internet connections at both the PS and DR sites. When there is a failure at the PS, the software service, DoubleTake, switches operations to the DR site. The service is available within 10 minutes after the decision to activate the DR site was been made.

Assurance: The process is tested monthly during the reboot needed for Microsoft monthly OS update

- **E-mail services.** Email to and from the Internet will be immediately available from DR site.

Assurance: Email services are switched between sites during equipment and communication upgrade and failures demonstrating the systems readiness

ii) Computers

- **PS Computer Systems.** Extensive computer systems support Commerce, Notes, databases, computational and storage platforms, many of which are critical. The systems are designed to be highly available and where necessary load-balanced. All equipment maintenance contracts are at the highest response level (4 hours) offered by the vendor. Automated problem detection systems initiate call downs to the infrastructure on-call roster and also notify an external contract security provider who also initiates call downs to 2nd and 3rd tier response staff in BHNSM if On-call fails to respond.

- **DR Computer Systems.** Commerce servers in all three tiers are made up of large scale unix-based cluster servers, replicating to the DR site. They all use a SAN with enterprise disk storage arrays providing 15 Terabytes on online disk. A Network backup Server uses a tape robot with a four drive LTO3 to read/write for 700 slots containing tape cartridges for emergency backup.

Assurance: All this equipment is designed with many internal redundancies to be highly available. They are also on the highest level of manufacturers support for repair and service.

- **Backup.** Application tiers are backed up to tape on-site (PS) and off site (DR site) twice daily. Live synchronization of main-site application tier to disk at the DR site is done every 30 minutes. Database tiers are backed up to tape on-site (PS) and off-site (DR site) twice daily. Copies of unloaded database images are made from the main-site to live disk at the DR site, twice daily. Live database-to-database replication occurred.

Assurance: The backup system is used regularly to restore and recover systems.

- **Enterprise authentication (LDAP/RADIUS/SecurID).** Used for remote, Internet, UNIX and other access) will be immediately available at the DR site.

ii) Infrastructure

- **Health Operations Center (HOC)** - Co-located at the DR site, the HOC is for key DOH executive and response staff to work should normal office space become unusable or inaccessible to the NYeNet. The proximity to technical expertise and DR computer systems provides an ideal resource to DOH responders to deal with an evolving emergency.

The room is equipped with phones, laptops, server, videoconferencing, satellite TV and phone, HF radio, and communications to Commerce, Notes and the Internet. Lighting, heating and cooling in the HOC and DR systems room is supported by UPS and generated power. An equipment upgrade and full implementation is expected by Q3 2008.

Assurance: HOC is used on a regular basis for drills and meetings adding assurance that it is suitable and ready.

- **DR Offices** - BHNSM has clerical staffing contingents at the DR site. These office locations will be appropriated as needed by BHNSM staff to provide on-site support for the HOC and recovery infrastructure.

Assurance: These desks are equipped and maintained with PCs that are explicitly designed to be powerful enough for needs during an emergency.

- **PS Power** - The power supplied to the PS has been very reliable historically. Electrical power comes from two independent power substations. An automatic transfer switch changes from an interrupted source to the other. There is a manual transfer switch to exchange substation power to the AC units.

There are two UPSs in the PS to provide protection against minor fluctuations and interruptions of utility power. There is 33 minutes of reserve power for the critical central computers and 90 minutes for the program area computers. There has never been a power failure since installation.

Assurance: The logs of the UPS systems are monitored daily and demonstrate that they reliably supply the needed protection. Alternative power station supplies are tested during Office of General Services (OGS) substation maintenance every year the way they would be used in an emergency. The UPSs are on comprehensive maintenance plans from OGS and Albany Utilities that include the regular replacement of batteries. The UPSs are also monitored 7x24 by OGS.

- **PS Power Distribution** – Five PDUs are used to connect equipment to power. Critical equipment is dual-powered with each connection going to a separate PDU.

Assurance: PDUs are on full maintenance plans with regular preventive maintenance. They are effectively tested during routine power changes and construction.

- **UPS at DR** - The DR site is equipped with an 80 kVA UPS to provide protection against minor fluctuations and interruptions of utility power. The UPS has 55 minutes of stored power to operate computers. A generator is started automatically by an intelligent transfer switch and in service within 15 seconds. It takes over from the UPS and re-charges it.
Assurance: The UPS is tested by a process that consists of the transfer switch, switching off the main power every week. The UPS is on comprehensive maintenance plans that include the regular replacement of batteries.
- **Generator at DR** - The DR site is equipped with a 250 kW generator with a 1000-gallon fuel tank that will take over the supply of power in less than 1 minute if a power outage occurs. There is a 700-gallon supply on-hand. Fuel is consumed at 19 gal/hr providing 36 hours of fuel on-hand or 52 hours on a full tank. A remote monitoring system measures output, load, fuel and operating health of the generator from within the computer room.
Assurance: A contract is maintained with local oil company to specifically supply fuel and explicitly requires regular delivery during an emergency. In extreme events, DOH can call on State Emergency Management Office (SEMO) for an emergency supply. The equipment is automatically tested weekly by switching off main power. It is tested annually under full load. The generator is on a comprehensive maintenance plan.
- **DR Power** - Redundant power distribution units supply electricity to equipment with dual power supplies to protect against failure of one or the other.
Assurance: PDUs are on full maintenance plans with regular preventive maintenance (PM). They are effectively tested during routine power changes and construction.

iii) Communications

- **Video and Voice Conferencing** – Videoconference bridges are maintained at both PS and DR sites with connection to the HEALTHCOM network and 4 dedicated ISDN PRI lines. Each bridge supports up to 95 separate calls that can be organized into 16 phone conferences. Up to 19 sites can participate using ISDN in a videoconference. There are 12 IP ports for videoconferencing at 384k on HEALTHCOM.
They have numerous features valuable during emergencies: ad hoc voice conference for management, pre-defined meeting rooms for conferencing during an emergency and the ability to call a participant and a “blast dial” process for adding many people on a pre-arranged schedule.

Capable of bridging a videoconference between IP-only devices to ISDN-only devices.

Assurance: Both bridges are used on a daily basis thereby assuring operation and familiarity with operation. They can be combined to provide the most connections. The DR equipment is connected to a dedicated ISDN, UPS and generator.

- **Satellite TV Reception** – A steerable C-Band satellite dish is mounted on the roof of the DR site. The system is remote controlled over the LAN. It can be tuned to different broadcasts on various satellites for distribution to the HOC or to the videoconference unit for showing to a group of remote users. Broadcasts from the CDC, NIH and FEMA are available regularly.

Assurance: Dish, receiver and recorders are connected to UPS and generator, on maintenance contract and used more once a week.

- **Satellite phone** - Globalstar satellite base station telephone is attached to an external antenna on the roof of the DR building. Long-range cordless handsets can be used in the HOC and anywhere inside the building.

DOH has collected the satellite phone numbers used by county health departments and hospitals and keeps them on record.

Assurance: Base station is on UPS and generator. Phone is tested on a weekly basis. Satellite phone is used during the alternative communications drills.

- **Alternate Communications** – In the event of disruption of normal landline telephones DOH and counties will need to use satellite phone, cell phone and radio to communicate. VOIP may also be possible with additional development. NYSDOH is currently working with the State Emergency Management Office (SEMO) in developing an Alternate Communications Plan for health care and public health. We are currently surveying all Hospitals, LHDs, local EOCs and amateur radio (RACES) groups to ascertain existing equipment capabilities and develop a detailed communications plan. This plan will include standard operation procedures with reports for Critical Asset information to be updated via Voice and Data communication methods.

Assurance: Drills were run during 2007 to gauge the DOH and local health departments' (LHDs') ability to communicate when normal line-line voice communications are down. The Integrated Health Alerting and Notification System (IHANS) was used to call LHDs on their satellite and cell phones. (See Appendix 13-E for IHANS business rules). They in turn called into a teleconference hosted at DR site for a simulation of getting additional instructions. DOH and counties conducted alternate communications drills.

- **Telecommunications Service Priority (TSP)** – The T3 local loop for AT&T ISP, all ISDN lines for videoconferencing at DOH and counties and lines for the fax server have TSP contracts. A TSP contract provides high priority repair for a circuit, especially useful when service is

curtailed on a large scale.

Assurance: The contract is provided with the assistance of Homeland Security who works to make it effective. DOH has had no occasion to use TSP yet.

- **GETS/WPS** – This service provide access to special phone lines that are dedicated to emergency service providers during the large surge of activity expected during an emergency. NYSDOH has helped counties obtain GETS/WPS and surveyed its utilization. NYSDOH is expanding internal staff access to these services.
- **HF Radio CDC** - A high frequency (HF) radio system is available from the DR site. It is assigned 14 CDC managed HF frequencies ranging from 4.442 MHz to 25.364 MHz SSB. The HF system consists of a Mobat 500E SSB unit, 2 - 30 MHz feeding either a BW-90 broadband antenna or a long wire. The system is equipped with ALE, and external PC based digital modes PSK-31 and RTTY. Present, and waiting testing with CDC, is a Rockwell Collins Messenger Email system with Q-9600 modem. This radio can be adapted to communicate with SEMO with their cooperation.

Assurance: The radio is on UPS and generator supply. Weekly radio checks with CDC are made to verify the readiness of the HF system to communicate in case of disruption of normal communication modes. Additional staff have been trained in use of HF radio and licensed.

- **SEMO Radio** - Meetings with the State Radio Officer have been held and SEMO is currently drafting a memorandum of understanding allowing. Regional offices, key health response partner organizations and the HOC of NYSDOH to use licenses and operate on the operational statewide VHF Low Band radio system. This network will connect Regional and Central offices with all counties and with SEMO. Radio installation and training of staff at regional offices has begun which will provide alternate communication links back to HOC.

Assurance: We are currently conducting monthly radio tests including messages sent in compliance with the standards of the National Traffic System on the NYS RACES HF network.

- **Radio and Voice Over IP** - The network unit maintains a Panasonic Toughbook computer with Echolink software loaded and configure that can be moved to any location with active ISP. EchoLink® software allows licensed Amateur Radio stations to communicate with one another over the Internet, using voice-over-IP (VoIP) technology. The program allows worldwide connections to be made between stations or from computer to station, greatly enhancing Amateur Radio's communications capabilities.

Assurance: Periodically tested using land based Internet and Satellite Internet.

iv. Networking and Alternative Worksites

- **Network Equipment** – All network equipment is under full vendor support, which includes equipment replacement, software upgrades, phone

support and escalation to a very high priority. DOH also keeps spares of almost all equipment so it can be replaced rapidly. The exceptions are very reliable, fault-tolerant devices for which the vendor provides expeditious service.

- **Internet Access (ISP)** – ISP is multi-homed to alternate providers at separate sites. At PS, services are provided by both AT&T and NYS Office for Technology (OFT). AT&T service is delivered on a T3 local loop provided by Verizon on a hardened, dedicated fiber from PS to the Verizon's main office on State Street. The OFT service is delivered on a dedicated fiber from PS to the OFT switch room on the concourse. OFT ISP service is provided by three separate vendors from three geographic regions of NY State to ensure high availability.
Assurance: The multi-homed configuration has been proven successful numerous times when ISP service was interrupted during vendors' maintenance windows. Staff has attended presentations about impressive preparations the providers have made to continue service under adverse conditions. The vendors are also bound by strict performance clauses in the OGS contract.
- **Satellite Internet at DR.** A business continuity satellite based Internet service from Enterprise Satellite Solutions (ESS) is in place and tested at the DR site. It has download and upload speed of 2 and 1 Mbps respectively and ready to use when both land-based ISPs are interrupted. The satellite capability will provide access for Internet access to Commerce, DOH access to the internet and email access with the Internet.
Assurance: Tests have been completed using satellite Internet service for access to and from DOH. Weekly tests of the satellite internet link verify availability and routing.
- **NY Network.** The PS has multiple, direct feeds into the studios of the NY Network, a large satellite communications facility run by State University of New York. NY Network is extensively equipped with UPS, generator, alternate power and communications so that they continue operations during adverse conditions. Its studios are used each month by DOH for an educational broadcast and could be used for an emergency presentation.
Assurance: Service used each month and broadcast shared via videoconference to DOH and counties.
- **Commerce Connection for Local Health Departments.** County health departments were aided by DOH in acquiring two ISPs for the Internet. Also, routers and ISDN lines are installed at the counties are installed establish ISDN network connectivity to Commerce web site should the local ISP service be unavailable.
Assurance: The ISDN lines are tested monthly from the central office. There have been statewide drills where DOH support staff assisted the counties establish a connection to Commerce using this equipment.
- **ISDN Dialup to Remote DOH Offices.** ISDN lines are installed at all the remote office and automatically re-establish network connectivity at 128 kbps by dialup whenever the NYeNet service is interrupted. Recovery is

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enabled to both the PS and the DR site

Assurance: ISDN lines are tested monthly. Failovers occur due to power failures and line failures all the time and are automatically recovered. Any problem that is encountered recovering service is repaired immediately.

- **Remote Access.** Staff will be able to provide infrastructure support via remote VPN access over the Internet. VPN access has been tested and can be built if necessary. There are two VPN devices each capable of supporting 500 sessions.

Assurance: Staff regularly uses the VPN for maintenance and minor emergencies throughout the year.

- **Communication with DOH at Large** - All of the DOH network will continue to operate automatically and have the above services. The main agency offices, located in Corning Tower (Albany, NY) can be brought online to the DR site within 1 hour.

Assurance: OFT manages the operation of the NYeNET. DOH has met with them and given full assurance that they make every possible effort to build redundancy with a rapid ability to recover. They use redundant circuits and provide alternate power in key locations.

k) **Staffing Contingents**

BHNSM has a staffing level of approximately 60 technical staff of which some 20- core infrastructure staff would be involved in immediate on-site recovery implementation. The remainder has sufficient cross training to provide shift staffing for 1st tier technical support for infrastructure systems. Informatics, 2nd tier network, database and server technical staff contingents and account support services are already housed at the DR site. Application support can be performed remotely via VPN.

Timetable (worst case Primary site at ESP becomes instantaneously inoperable.):*

The recovery of systems to the DR site will proceed following this schedule:

<u>Start Hour (**)</u>	<u>Duration (hours)</u>	<u>Task</u>
0	0.2	Clustered Lotus Notes online
0	<1	Blackberry server online for those with V2.6
0	<1	Commerce application services with live data and public web pages available

* In the case of power outage involving both primary and alternate substation feeds, the PS UPS would provide a 2 hr window to begin transition to DR, decreasing commerce service outage to 2 hrs.

** Start time from decision to activate DR site for production use

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Incident Command System – BHNSM uses the Incident Command (IC) System to handle problems and emergencies. The Bureau Director is primary IC and has 2 backups. There are seven teams: Servers, Notes, Network, Security, Continuous Operations, Commerce Applications and Informatics/Alerts. Each team has a designated leader and 1 or 2 backups. The teams are made-up of 3-7 expert staff. Together they are ready to adapt and respond to incidents interrupting service

The Incident Response Process is made-up of the following sections:

- Detection - means to detect incidents automatically or by on-call process
- Report of Incident - collect information about the event
- Form response team - select a incident commander and team
- Response activity - work to resolve incident with pre-positioned resources as possible
- Communications - how and whom to communicate appropriately and completely
- Continuous Improvement - final incident report and derived process improvement

Staff Lists – Are maintained by administrative staff and include off-hour numbers. The phone number for disaster recovery team leaders are all recorded in the DR Plan and in the on-call procedures.

The Emergency Communications Directory (ECD) will be activated by DOH management during an emergency. The ECD lists the location, phone, email and supervisor; and, contains emergency contact information by phone and email. Emergency staff will produce reports organized by the fields listed in the database that will be used to email employees or be used to call them

The ECD will also be used to produce volunteer lists. Employees who were willing to volunteer checked various skills valuable in an emergency situation (like nursing license or speak a foreign language).

Assurance: Reviewed regularly. ECD data must be verified by each employee every 6 months. The ECD was successfully used for a volunteer call-up for hurricane Katrina and for flooding in southern New York.

On Call Support – NYSDOH BHNSM maintains an on call list of personnel who are required to receive emergency calls during non-business hours. This list is updated regularly to be sure that all eligible staff participate in the program and are familiar with procedures. On call staff is equipped with a laptop, procedures to help them take care of the emergency and a list of contact information for all staff. In the case of a serious emergency they would contact senior staff to take over as an Incident Commander.

Assurance: The on-call system is active during all times outside of business hours (M-F8-5)

Virus protection will be available to workstations and notes office automation users.

Phone Conferences: - Provided ISDN service is available:

- Conferences can be set up 'on the fly' with PC software and password.
- Pre-recorded messages played for conference, to do roll calls, ask person to state their name when joining conference.
- Pre-recorded messages available for dial-out connections.
- Make a combination of dial-in and dial-out calls.
- Specific pre-recorded messages can be done per conference.
- One phone number to call into all the time for all conferences.
- Conference can be set up as continuous so it would be available all the time.
- Pin # can be changed but has to be done ahead of conference start-up.

2. Command and Control

a) **Incident Tracking, Management and Situational Reports**

Communication in form of textual dialogue and Situation reporting regarding incidents is currently maintained through three Lotus Notes BMLs. NYSDOH staffed Health and EMS desks at the State ECC utilize the OPSHealth EOps, OPSEMS EOps BMLs for reporting out to agency response staff. These feed the SitRep BML, which is used for internal reporting and assembly of internal and external Situation Reports. An Incident Management Team-Room in Lotus Notes is available to provide a document management tool for DOH Incident Management staff. It will be used for collaboration and SitRep report assembly during PHP Events. It uses the Team-room template of Lotus Notes to support (1) a repository of reference and plan documents; (2) an document security system to control authoring, reading, review and approval/finalization of reports; (3) organization of emergency staff into electronic workflow teams such as sanitarians, epidemiologists, communicable disease experts, EMS, radiological staff, etc, that can be changed as the emergency develops; (4) grouping of calendars for scheduling activities; and, (5) a means to assign tasks (missions) and track their progress.

b) **Inclusion, Cross Jurisdiction and Rapid Commerce Access**

Aside from the Scope of Commerce access described above, Tribal Nations within NYS borders (Appendix 13-C) and external health jurisdictions of NYC, New Jersey, and Connecticut have access accounts on the Commerce system. Several out of state hospitals in close proximity to the NYS border in NYC metro area have commerce accounts and are linked to the NYSDOH Health Emergency Response Data System (HERDS)⁷. These include the states of New Jersey and Connecticut. A

cross-jurisdictional communications directory tool is available to provide contact information for the external health jurisdictions.

Key response agencies such as NYS Office of Mental Health (OMH) and their associated mental health facilities, Department of Agriculture and Markets, Department of Environmental Conservation, State Emergency Management Office (SEMO) have accounts on the Commerce System. A list of participating state agencies is provided in Appendix 13-C. United States DHHS Region II has organizational account access to Commerce. An electronic pass-through mechanism has been established to allow linkage of NYSDOH commerce users to the NYC Jurisdiction HAN system.

HIN coordinator roles at LHDs are provided with a utility (DOC-L) to rapidly sign-up local response partner organizations and affiliate them with their local health department organization on the commerce system. These would include local fire, law enforcement and schools. The DOC-L sign-up allows local response partners access to health alerts and other 'open-access' resources on the commerce system and further enhances the capacity of LHDs to use the IHANS system to alert local partners within their jurisdiction. The DOC-L system is available through three normal account tools for LHDs and can be found at:

<https://commerce.health.state.ny.us/hin/software/coord.html>

c) **Demographic Profile**

Demographic profiles of local communities (including special needs populations and language minorities) required for inclusion in the operational plan can be reported and tracked through the County HERDS Instance (also known as County Surveillance and Reporting System). These can be linked to the HERDS GIS visualization as well as to person-attributes in the professional medical volunteer and NYSDOH volunteer database system. An LHD critical asset survey crossing all areas of public health preparedness captures public health preparedness data needed for reference during emergencies, and an ongoing process of maintaining and adding to this data store is in place

d) **Communications, Notification and Alerting**

The NYSDOH Public Health Preparedness unit has overall programmatic responsibility for oversight of the IHANS system. They are responsible for coordination of access rules, use and functional requirements for the system (see IHANS Notification System business rules in Appendix 13-E).

The ComDir and IHANS System will be used for creating HAN postings and generating related emergency notifications at various levels of urgency during a pandemic. These will be delivered to personnel in key ComDir roles at NYSDOH regional offices, local health departments, hospitals, nursing homes, laboratories, home health care, diagnostic and

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treatment centers, adult care facilities, tribal nations, external agencies and local response partners as required. Regional offices and local health jurisdictions are able to use the IHANS alert tool to transmit notifications and post HAN alerts within their regions/jurisdictions to the recipient organizations as described above

The NYSDOH Health Alert BML in Lotus Notes will be the central receipt and warning point for notifications from other external agencies such as the CDC/HAN, CDC/Epi-X, CDC/Other, SEMO, Department of Agriculture and Markets, Department of Environmental Conservation and NYS Office of Homeland Security to be cascaded through the NYS notification system to local health departments and other organizations. Regional offices and local health departments that have personnel who have been trained and certified in the use of the IHANS Alert Tool (See Section IV and Appendix 13-E) will then cascade the notification, and link to the correct HAN posting if applicable, further to their local contacts established in ComDir.

The IHANS system currently handles the processing of ECLRS notifications and supports the emergency notification needs of other Commerce preparedness and response applications, such as HERDS and the professional Medical Volunteer Database.

i. **State DOH Readiness to use Notification System**

In order for the emergency notification system to function most effectively, the following tasks will be accomplished as part of the agency's preparedness planning processes:

- **Account maintenance.** Assures that all response related agency staff have been granted access to commerce, have active accounts system and know their user IDs and passwords. For NYSDOH/HRI employees, Commerce user ID and password were unified to one agency enterprise ID and password to facilitate recall of the login information.
- **Maintaining Updated Contact Information.** Commerce logins require that all users review/update their contact information every 3 months.
- **Training and commitment of NYSDOH personnel in use of the ComDir is reinforced.** Appointments of "Directory Coordinators," who are responsible for maintaining up to date emergency contact information and role assignments for their program areas key staff in the ComDir have been made for all major NYSDOH centers and regional offices. This is essential to supporting immediate contact for emergency notifications sent by executive staff, or by local health departments or NYSDOH regional offices.
- **Reinforcement to External partners.** NYSDOH program areas continuously reinforce the need for active use of Commerce

system by healthcare facilities and responder communities, and reinforce the existing regulation requiring that facilities maintain active HPN coordinators and current ComDir contacts.

- **Expansion of access to, and training/certification in the Notification System.** A cadre of NYSDOH officials in the Office for Science and Public Health, the Public Health Preparedness program, the Division of Epidemiology, Wadsworth Laboratories, Office of Health Systems Management, Center for Community Health and Center for Environmental Health have been trained and certified in the use of the system.
 - **Assure Establish Pre-recorded messages for alert tool.** BHNSM has the capacity to establish pre-recorded messages for use in the voice component of the alert system tailored to pandemic influenza notifications and other prerecorded announcements to disseminate critical announcements, information, updates and notices. These messages are recorded for all NYSDOH and LHD user jurisdictions of the IHANS tool.
 - **Functional Cascaded alerting process between CDC Epi-X, disease alerting to NYSDOH HAN is developed and drilled.** Exchange of alerts between Epi-X and NYSDOH Commerce to enable NYSDOH HAN Alert Viewer to immediately cascade alerts originated by CDC Epi-X to its Commerce user domain.
 - **Recruitment of Individual Licensed Health Practitioners to NYSDOH HPN/HAN.** Program area support in recruiting physicians and other licensed healthcare practitioners to gain access to Commerce and that up- to- date contact information for these individuals is maintained in ComDir will facilitate frontline healthcare personnel receiving and reviewing NYSDOH HAN health alerts, advisories and regular informational updates as a PHP event unfolds.
 - **Drills.** Drilling the use of, and response to, the IHANS notification system are conducted regularly with all partners at state, region, LHD and provider levels so that the technical aspects of using the system are understood by important users, and users are well practiced in sending and responding to notifications.
- ii. **Local Readiness to use Notification System**
All local health departments have multiple staff trained and certified in the use of the Notification System. LHDs maintain this trained and ready status regarding use of this system through the following activities:
- **Account Maintenance and Recruitment.** LHDs assure that all public health preparedness personnel have their own, active

Commerce accounts and that addition of local response partners occurs through the DOC-L process

- **Training.** LHDs personnel, e.g., communicable disease, emergency response, and administrative staff attend ongoing Commerce strategic rollout training sessions where they are trained and certified on the use of the tools for alerting, including the use of the persons emergency contact screens in the ComDir for maintaining 24/7 emergency and business contact information; use of the list tool, for creating predefined contact lists for specific purposes which will help to expedite the alerting process during a pandemic, and finally, use of the notification system itself for creating open or targeted HAN postings and for sending out notifications to specific roles and contact lists. Currently LHD staff persons are able to use the IHANS system for sending emergency notifications.

iii. **Volunteer Rosters**

The NYSDOH Public Health Preparedness (PHP) unit has overall programmatic responsibility for oversight of the Professional Medical Volunteer and NYSDOH emergency contact and volunteer database system. The Bureau of Narcotics Enforcement (BNE) has program responsibility for recruitment and processing licensed prescribing practitioners to the commerce system. PHP is responsible for recruitment of non-prescribing practitioners (i.e., nurses) to the commerce system. BHNSM is currently working with PHP program to migrate the existing Commerce volunteer database to compliance with the Emergency System for Advance Registration of Volunteer Health Professionals (ESAR-VHP) Program. The Public Affairs Group (PAG) and PHP are responsible for promotion of use of the commerce system by practitioners for preparedness and volunteer signup.

The Professional Medical Volunteer database will provide a roster of medical volunteers for use by local and State Health for deployment in support of surge. IHANS will provide the alerting functionality to notify volunteers of activation and is currently used to send alerts and other notifications to notify practitioners of new postings on HAN and other materials of interest on Commerce.

The Commerce HERDS GIS will enable statewide spatial visualization of medical staff assets deployed as volunteers, facilities/counties with needs and those with resources available. Reporting out to external federal organizations, processes will occur using existing automated messaging systems within Commerce based on CDC PHIN/MS message transport standards and standardized XML message content as required.

In order to assure adequate volunteer capacity to exercise the Informatics infrastructure the agency engages in the following planning and preparedness activities:

- **Assurance of ongoing use of HPN by Individual Licensed Medical Professionals (LMPs).** To assure that LMPs return to and use the HPN on a frequent basis the NYSDOH the PAG, BNE and PHP units have partnered with state and local professional societies to promote volunteer sign-up as part of the HPN registration process for prescription pad registration.
- **Maintenance of Up to Date Contact Information for Practitioners in ComDir.** ComDir serves as the authoritative source of practitioner contact information. Assurance that practitioners' offices are brought on to HPN as organizations and that they have coordinators who update contact information on behalf of the practice assists this process.

e) **Information, Data Sharing and Linkage**

HERDS PHP surveys of LHDs demonstrate that they share case information with other LHDs and hospitals. NYSDOH has established regional, cross-jurisdictional executive dashboard system on Commerce that was used in support of the Republican National Convention planning and preparedness. The system provides regional access to linked data sets across all data systems within the commerce information domain that relate to support of planning, preparedness, surveillance and response for a PHP event. Data sharing agreements will be implemented to facilitate active statewide and/or regional cross-jurisdiction participation in the dashboard system for data sharing, visualization and linkage in a widespread PHP event. PHP Program, house counsel and BHNSM have the lead in developing data sharing agreements to address control over rules of data access, data protection, secondary disclosure and assurance multi-lateral data provision. A multi-program workgroup inclusive of epidemiology, Wadsworth Center, public health preparedness, hospital program and house counsel developed and accepted the data sharing documents and have received approval on these from DOH executive staff. NYSACHO/LHD review/approval is pending. (See Appendix 13-B, Commerce Data Sharing Agreements.)

f) **Real Time Situational Awareness and Decision Support**

Real-time data feeds from core PHP Commerce systems will be summarized, linked, visualized and made available to executive decision makers, local health officials, health facility incident command and other key response partners through the Executive Dashboard on the Commerce system. Processes have been built on the model used to instantiate and populate the dashboard deployment used in support of the Republican National Convention and the full-scale, Communicable Disease Exercise

(CDEX), conducted in NYS during May-June, 2006, and include decision support. Rich internet architecture, SAS processing and HERDS GIS systems provide the underlying integration and visualization infrastructure for the dashboard (See Appendix 13-D for example of the Dashboard) data feeds are linked to the dashboard from existing commerce systems described in Parts IV inclusive of:

- Event detection and surveillance systems: ED reporting, syndromic surveillance systems, HERDS surveillance at health facilities, NORA and ECLRS
- Case reporting, contact tracking and isolation: CDESS and HERDS functions supporting isolation and quarantine
- Outbreak tracking as implemented in HERDS framework (hospitalization and death statistics)
- HERDS health facility reporting: attributes, personnel, equipment, supplies, assets, pharmaceutical, vaccine and antivirals, surge, resource needs and availability
- Volunteer rosters.
- ComDir
- HERDS SNS/MERC reporting/tracking
- Counter Measure Response Administration
- Avian and mammal surveillance; Veterinary practice HERDS version

Decision support and visualization made available through the dashboard include:

- Time series monitoring of event detection information, surveillance, outbreak and case reporting.
- Outbreak tracking of geographic and demographic extent of event
- Static, time series and spatial display of medical personnel resources, facility resources, vaccine inventory and needs, counter measure administration (as described in Part I)
- Resource materials

Functionality provided through the dashboard include

- Health alerting
- Secure collaboration
- Webinar access
- Cross jurisdictional ComDir contact lookup

B. Protect Citizens

1. Human Surveillance - Routine Surveillance and Event Detection

- a) **Community-Acquired Influenza.** All hospitals in NY state report weekly through HERDS on patients (and associated age demographics) admitted with

laboratory-confirmed influenza (Type A, B, or Unspecified). This information is available on commerce as live data feeds to local health, state and regional offices as soon as it is reported by Facilities. HERDS GIS system provides a spatial visualization of these live data feeds. ECLRS clinical lab test results for influenza are also monitored and tracked. HERDS instances have been developed for home health agencies and adult care facilities

- b) **The CDESS system** supports statewide electronic Influenza case reporting by Local Health departments. CDESS is integrated with clinical laboratory reporting of positive test results through ECLRS. The CDESS system allows reports to be initiated at hospitals and made available to the local health department of jurisdiction for official case report processing to the state. The most recent version of CDESS as released to local health departments in January 2006 also supports contact tracking, isolation and quarantine for both novel influenza and SARS
- c) **Facility-Acquired (Nosocomial) Influenza and ILI Outbreaks.** Nosocomial-acquired infection outbreaks (including Influenza ILI) are reported on a routine basis by hospitals and long-term care. The data is available in real time via the NORA system on Commerce to LHDs, state and regional offices
- d) **Syndromic Surveillance.** Time series and trends in OTC (RODS data) medications and Medicaid prescription data is monitored statewide on an ongoing basis
- e) **Practitioner Surveillance.** The NYSDOH Bureau of Narcotics Enforcement (BNE) is the process of recruitment of all licensed prescribers on to the HCS for electronic prescription pad orders. The subscribing practitioners are also offered access to an electronic system to sign up as medical volunteers can be leveraged to include recruitment of volunteer sentinel physician ILI reporting through the commerce system
- f) **Avian and Animal Surveillance.** The statewide arbovirus reporting system reporting system supports ad hoc reporting of symptoms and deaths of mammals and birds. This system can be adapted for reporting of influenza symptoms/events within these populations. As veterinarians and their offices are being brought onto Commerce as part of the BNE prescription pad registration rollout, they are becoming part of the Commerce system and are beginning to use a Veterinary reporting instance of HERDS to report to the NYSDOH via survey forms. The NYS Department of Agriculture and Markets operates a separate system for veterinary reporting, the *New York State Animal Incident Notification and Tracking System (NYSAINTS)*
- g) **NYSDAM are currently users of the NYSDOH IHANS tool** for sending alerts and other level notifications. As veterinarians and their offices join the Commerce as part of the BNE prescription pad registration rollout, their contact information will be available for updating and for use by the IHANS tool for sending notifications to veterinarians regarding urgent information

2. Public Health and Clinical Laboratories

- a) Public health laboratory testing of human samples. The Wadsworth Center processes specimens for laboratory testing for influenza. Laboratory test requests, specimen accessioning, tracking and results are processed electronically within the Wadsworth Clinical Laboratory Information Management System (CLIMS). The results are reported daily through ECLRS. Test requests for specimens sent to Wadsworth by local health can be processed through the CDESS workflow through electronic linkage of the test request form (<https://commerce.health.state.ny.us/hpn/hanweb/flu/virusurvrefhistoryform.pdf>) to the CDESS case number.
- b) Inform Clinicians and Laboratories
- **Clinicians.** The BNE recruitment process can be leveraged through the HCS executive staff editorial board to inform clinicians of protocols for safe specimen collection and mechanism for submitting specimens to referral laboratories. The practitioners' pages on HCS can point to specimen protocols, diagnosis and treatment information and the IHANS system can be used to notify them as to its availability. A clinician-targeted discussion group can be set up on the Commerce secure discussion forum to allow individual practitioners to dialogue with state epidemiology and laboratory staff regarding questions and case specifics.
 - **Clinical Laboratories.** With maintenance if inclusive and accurate contact information in ComDir for clinical laboratories, the IHANS systems can be used to notify laboratory personnel of availability of training materials and sample protocols for safe collection testing, how and the mechanism for submitting specimens to referral Wadsworth. The Commerce access and logging system is also able to confirm that labs have actually accessed the materials.

3. Monitoring Influenza related Hospitalizations and Deaths -- Heightened Surveillance

- a) HERDS reporting systems are deployed to monitor confirmed influenza cases and deaths occurring at hospitals. HERDS systems are deployed to health provider organizations and local health departments can be rapidly modified to change or add fields reported on and the intensity at which reports are made. These may be separately targeted to specific regions of the state and expanded statewide as needed. The IHANS system can rapidly alert the target organizations to begin reporting on new forms and increased frequency or reporting. The reports from these new forms are instantaneously available to state, regional and local health. The IHANS system will be used to alert medical practitioners on the commerce HAN system to the increased need for surveillance and reporting on the HPN.

4. Operating Steps to Obtain and Track Impact of the Pandemic

- a) **Statewide Situational Awareness of Healthcare Status.** The HERDS system is available to support outbreak tracking. Preliminary forms and data elements compatible with CDESS have been developed and deployed for a large outbreak of Cryptosporidiosis during the summer of 2005. The implementation in HERDS allowed for rapid entry of abbreviated or summary information on a large-scale outbreak, permitting tracking of extent and impact of an outbreak when thousands of cases were emerging. Similarly, the Commerce application development framework will provide an integrated interface for outbreak reporting as well as vaccine/antiviral tracking/requisition, SNS and other key resource report/request functions. The HERDS GIS system and the Commerce Executive Dashboard will display this information as it is reported to the HERDS system.

The HERDS system⁷ currently tracks and reports an exhaustive inventory of hospital assets, pharmaceuticals, surge, supplies, durable equipment, bed-availability. Influenza Vaccine needs are also being tracked. The Nursing Home HERDS surveys track similar information, including bed availability. Electronic reporting for event patient traffic; staff and equipment, material resource requirements/availability; staff vaccination status and other needed information can be rapidly added to reporting from existing HERDS templates and forms. Electronic Incidents activated in HERDS allow for the reporting of resources needs and available for incident command allocation between facilities. A critical assets survey for nursing home was deployed and data collected for all nursing homes during the last quarter of 2006 and first quarter 2007 and a critical assets survey of Local health departments was deployed during August of 2007. HERDS reporting forms have been deployed to Home Health Care and Adult care facilities. A version of HERDS is being developed for Diagnostic and Treatment Centers (D&TC) and will be available for gathering D&TC critical assets information.

5. Countermeasure and Response Administration

- a) **Acquire and Distribute Medical Countermeasures** – contact information for RSS (receiving, staging and storage) Managers is maintained in a group of specific RSS roles in the Commerce ComDir. These roles are defined at both the state and local health department levels. RSS roles are routinely drilled for receiving alerts and accuracy of contact information on a quarterly basis. As with all ComDir roles, these roles maintain a total of up to 6 business hours and after hours emergency contact numbers for each individual in a role and the number of individuals that may serve in a given role is unlimited. The following roles are maintained in ComDir for state and local health departments RSS:
- **State Staffing/Volunteer Coordinator Planning Lead – NYSDOH**
Develops plans related to staffing and volunteer issues and works closely with SNS management staff in relation to Mobilization Site operations.

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Develops and maintains pools of volunteers, specializing in many different areas, for use at various SNS related locations during an event. Maintains call rosters and other means of communications to facilitate the activation of the volunteers.

- **State Tactical Communications/IT Support Planning Lead – NYSDOH**
Develops plans related to communications and IT support for operations and works closely with SNS management staff in relation to Mobilization Site operations. Will monitor and coordinate the efforts of each of the SNS functional areas; Will receive requests, send situational reports, and exchange information; Will ensure that SNS teams have communication equipment and arrange for or complete any repairs or replacements as needed.
- **State SNS Security Coordinator Planning Lead - NYSDOH**
Develops plans related to SNS Security and works closely with SNS management staff in relation to Mobilization Site operations. Will interface with law enforcement agencies that are assigned to the incident and act as a liaison between law enforcement agencies and the SNS management team.
- **State Mobilization Site Receiving Lead – LHD**
Provides overall supervision and control over receiving of DSNS assets, set up receiving unit, inspect shipment, and work closely with inventory control lead.
- **State Repackaging Planning Lead – NYSDOH**
Develops plans related to repackaging operations and works closely with SNS management staff in relation to Mobilization Site operations. Works closely with Warehouse Manager to ensure that the appropriate equipment and personnel are present to conduct repackaging operations; Will manage repackaging operations and coordinate repackaging staff.
- **State Dispensing Site (POD) Coordinator Planning Lead – NYSDOH**
Develops plans related to POD Operations and interacts the SNS Management Team and outside agencies as needed. Directs the respective leads in managing all aspects of the POD operation to include: intake, screening, dispensing, education, and security. Works closely with the SNS staff in coordinating delivery of the inventory to the POD.
- **State Treatment Center Coordinator Planning Lead – NYSDOH**
Develops plans and prepares Treatment Center for operations, works closely with SNS management staff to request resources during an event, and explores federal grant programs related to Treatment Center funding.
- **State Mobilization Site Planning Lead – NYSDOH**
Develops plans and prepares State Mobilization Site for operations, works closely with SNS management staff in relation to Mobilization Site operations.
- **State Distribution Planning Lead – NYSDOH**
Develops plans related to asset distribution and interacts the SNS Management Team and outside agencies as needed.

- **State Mobilization Site Manager – LHD**
Will coordinate and supervise all elements of the State Mobilization as well as ensure that all necessary equipment is present at the State Mobilization site for operations. They will also serve as the primary interface between the State Mobilization Site and the State Emergency Operations Center during SNS operations.
 - **State Mobilization Site Receiving DEA Registrant – LHD**
Manage receipt of pharmaceuticals and controlled substances at the Mobilization Site. Sign for controlled pharmaceuticals and controlled substances to ensure all legal requirements are met.
 - **State Mobilization Site Warehouse/Safety Manager – LHD**
Provide overall supervision for the Mobilization Site warehouse operations. Provide safety briefing and ensure safety practices are followed during warehouse operations. Act as the liaison between the Mobilization Site manager and the Mobilization Site staff.
 - **State Mobilization Site Inventory Control Lead – LHD**
Provide tracking of inventory as it is shipped/received, and maintain an active list of available inventory. Manage the Inventory Management System to support Mobilization Site operations.
 - **State Mobilization Site Shipping Lead – LHD**
Works closely with the Warehouse Manager to ensure that there are an adequate number of transportation resources available to distribute assets from the State Mobilization site to the receiving facilities: Will work with the Inventory Control Team to maintain accountability of all items in the warehouse.
 - **State Mobilization Site Picking Lead – LHD**
Provide overall supervision of picking staff. Work with inventory control to obtain picking sheets and fill orders.
 - **State Mobilization Site Quality Assurance Lead – LHD**
Provide overall supervision and control over Quality Control issues. Verify and seal contents of pallet prior to shipping.
 - **State Public Information Officer Planning Lead – NYSDOH**
Works closely with SNS management team as well as the media to ensure a timely, concise, and accurate flow of information before, during, and after an event
 - **State Mobilization Site Security Coordinator – LHD**
Provide and coordinate overall State Mobilization Site security. Interact with local/county, regional, state, and federal law enforcement agencies as needed.
 - **State Mobilization Site Communications/IT Support – LHD**
Provide communications and IT technical support for the State Mobilization Site. Interact with local/county, regional, state, and federal resources as needed.
- b) **Administer Drugs in a Legal and Ethical Manner/Monitor for Adverse Reactions to Drugs**
The New York State Department of Health, in preparing to deal with large-

scale clinic management activities, engaged local public health communities to determine what, if any, support is required of the State Department of Health during mass clinic activities. Based upon input from local public health directors and organizations such as NYSACHO and HANYS, it became clear that there was a need for standardized methods and systems for collecting, storing, recalling and processing patient treatment data in a timely and efficient manner. Because of the large volume of data that would have to be processed in a timely manner during mass clinic activities including influenza pandemic, NYSDOH has developed the HCS Clinic Data Management System (CDMS) used in the event of an outbreak to track administration of counter measures and to ask questions specific to the outbreak. POD site selection and POD site security and logistics is tracked and maintained in the Commerce LHD HERDS application. This would be used for identifying and standing up POD sites to support the most effective distribution of countermeasures during the outbreak. In conjunctions with other HCS applications, these systems will support any large-scale campaign to administer drugs and monitor for adverse reactions to provide protection for a potential influenza pandemic or to contain and respond to a known influenza pandemic. The systems will support multiple types of organizations that may participate in one or more roles, such as that of state, metropolitan or local health department, administering facility, take response location, pharmaceutical distribution center, countermeasure preparation site, isolation or quarantine location, and referring organization. It will also support different countermeasures including pharmaceuticals such as vaccines, antibiotics, antivirals, and other drugs, as well as medical supplies such as respirators and IV sets. Countermeasures also include actions such as follow up activities and isolation and quarantine monitoring.

c) **Ensure Mass Vaccination Capability During Each Phase of the Pandemic/Vaccine Monitoring**

The LHD version of the HERDS application currently serves as a repository of identified POD site locations and POD site security, and of the attributes that is maintained by local health departments and will be used to help identify PODS that will be stood up during a pandemic event. There are 566 POD sites identified in this application. POD main points of contact and their contact information is maintained within this application and will be used for sending POD activation alerts and ongoing event alerts and advisories to the POD sites to maintain communications with Public Health officials involved in the epidemiologic and countermeasures RSS responses.

During a pandemic influenza, the CDMS will be used as a medical records system by public health agencies when operating mass treatment clinics. Because it may be necessary to recall patient treatment data for a variety of purposes shortly after initial treatment, the exclusive use of paper may not be feasible. As the number of patients treated increases, the feasibility of using a paper-based medical records system quickly diminishes. In the event of mass clinic activities including influenza pandemic with thousands or millions of

patients, quick access to patient data will best be accomplished if patient data is stored in an electronic fashion. Searching electronic records will be significantly faster and more cost effective than searching through thousands or millions of paper records. In fact, locating particular paper medical records in the time required will most likely prove impossible during mass clinic activities. In addition, countermeasures in limited supply must be allocated to prioritize coverage of at-risk populations. The ordering, distribution and usage of limited supply countermeasures may require tracking at multiple levels of public health and coordination between multiple levels of public health. The system will be capable of tracking the patients who received countermeasures and information about the countermeasures they received during CRA campaigns. The information collected might be used to conduct statistical analysis of the progress and efficacy of a campaign, identify patients who should be contacted because they have received a countermeasure of questionable safety or efficacy, or build response teams of protected individuals. A user-friendly interface for retrieving previously entered patient information will be provided to reduce the occurrence of duplicate patient records and improve the validity of patient and countermeasure administration counts. Detailed and aggregate reports of the data will be used for quality assurance of data entry, to assist with any required follow up activities, or to provide lists of response team members for referring organizations. Aggregate reports will be available to show campaign progress and preparedness across the various jurisdictions.

d) **Distribution and Use of Vaccine and Antiviral Medications**

(See Plan sections 6 and 7 for details for information systems supporting inventory and needs assessment; acquisition distribution and tracking; pharmacy inventories and adverse event tracking and clinic data management.)

6. Healthcare and Emergency Response

- a) **Isolation and Quarantine.** Beyond initial Epidemiological investigation needs of a pandemic covered in CDESS, the HERDS system as deployed to Local health and health facilities statewide can provide general summarization, tracking and reporting of support, service, and monitoring for those affected by community containment measures in healthcare facilities, other residential facilities, homes, community facilities, and other related settings
- b) **Facility-based Isolation and Infection Control.** The statewide inventory of Hospital AIIR room capacity is available through the HERDS system. Complementary HERDS reporting forms can be established to track and mass balance occupancy and availability. Hospital staff vaccination status, PPE inventory and training status is also available through HERDS Critical Asset survey and HRSA Baseline surveys. Long term care infection control, isolation and cohorting capacities are assessed in the Nursing Home Critical asset survey. Nosocomial-acquired influenza in hospitals and Nursing homes is tracked in the NORA system

c) **Interoperable Communications Among Provider and Stakeholder Groups**

Interoperable Communications Infrastructure. Health preparedness and Response Information Exchange and Situational Awareness

- **Operations under a pandemic Event with External Response Partners.** The HCS supports both routine health information exchange and health preparedness and response to events⁷. The communications and systems infrastructure supporting HCS is highly available, redundant and supported by an offsite disaster recovery site, collocated with the agency's health emergency operations center (HOC). The DR site and HEOC are both supported by alternate generated power and communications. HCS houses a wide range of health emergency response systems including, statewide disease surveillance and reporting, event detection, lab reporting, health alerting, (ComDir), volunteer management, healthcare resource/medical surge management⁷. In 2004, NYS Public Health Law (Section 400.10) was amended to require all Article 28, 36, 40 facilities to use the HCS, maintain an available cadre of active users on the system, maintain ComDir information up to date and abide by the terms and conditions of the HCS security, use and non-disclosure agreements. Clinical laboratories are required by law to report notifiable disease conditions electronically on the HCS. Other health response partners (Local Health, pharmacies, licensed medical practitioners, veterinarians, EMS, vital records reporters, school systems) access and use HCS for required electronic reporting or health alerting functions. Other State/Local government agency response partners (EMOs), law enforcement, Agriculture and Markets, Mental Health) access HCS for health alerting and situational awareness. Listing of participant organizations is published in peer-reviewed literature⁷ and also presented in Appendix 13-C.
- HCS supports integrated human, animal, avian and vector surveillance systems that have used in the past in Statewide response to emergent infectious disease conditions resulting in emergency declarations⁷. HCS supports the NYS Statewide Health Emergency Response Data System (HERDS), providing dynamic disease (influenza) surveillance, health care resource /surge / medical counter measure management. HERDS has been cited as an exemplar practice in public health preparedness by RAND Corporation⁹ and has been deployed to all local health department, hospitals, long term care, homecare facilities in NY State. It has also been deployed to schools statewide. It has supported NYS response to emergency declarations involving mass power failures, including the North East blackout and Western Region Snow Storm. HERDS has been used in an array of large and small scale exercises and drills, including full scale exercises scenarios involving emergence of highly pathogenic and infections novel strains of influenza. It was used in response critical health resource shortages as in the national vaccine shortage and also supports ongoing influenza surveillance and tracking of critical assets, bed

availability and health facility emergency response plans. HERDS provides a real-time flow of detailed data on surveillance, resources (available and needed) and other event information between healthcare facilities, local health departments (LHDs), state and regional health offices, Emergency management, hospital networks, Regional Resource Centers and other key response partners. Details on HERDS, its uses as applies to preparedness, performance metrics are available in the peer-reviewed literature⁷.

- Health alerting and notification occurs through the Integrated Health Alerting and Notification System (IHANS) on HCS, which supports multiple simultaneous modalities of notification including e-mail, fax, land/cell/satellite phone, pager, integrated voice response and secure web postings. Role and contact information used by IHANS is updated continuously by participant HCS organizations. IHANS is available on the HCS for Central, regional and local health departments (LHDs) to utilize for alert dissemination. Multiple individuals in each LHD, regional and central NYSDOH Offices have been trained certified in use of IHANS. It is also used by other key State response agencies for use to cascade alerts. Additional details on IHANS, ComDir and response metrics to alerts providing notification as to HERDS activations are available in the literature⁷. Statewide electronic Human disease reporting, quarantine and contact tracing are supported through the Communicable Disease Electronic Surveillance System (CDESS) on HCS. The Electronic Clinical Laboratory Reporting System (ECLRS) supports electronic laboratory reporting of positive test results for notifiable disease conditions. Details on CDESS and ECLRS are available in the published literature⁷. Both ECLRS and CDESS provide detailed human case and test results to LHDs, NYSODH staff in Central and Regional Offices.
- During a Pandemic event Health Alerting and other notifications occur through the HCS Integrated Health Alerting and Notification System (IHANS), using contact information derived from the HCS ComDir to notify appropriate roles and organizations that secure alert document content has been posted on the HCS health alert network (HAN) file viewer. Notifications are sent using multiple pathways including automated phone calls, e-mail and fax. On receiving a notification, users in the notified roles log into the HCS system, access the HAN file viewer and download the alert document. Electronic disease case reporting, contact tracing and quarantine status will occur through the CDESS⁷, where LHDs statewide report detailed patient demographics and disease-specific supplemental data supported will test results sent to them through ECLRS. In the ECLRS system, positive test results for reportable disease conditions will be submitted by hospital, commercial and public health laboratories to the HCS and routed to LHD of jurisdiction for case establishment or conformation. The Wadsworth public health laboratory's Clinical Laboratory Information Management System (CLIMS) test

results obtained from submitted specimens are transmitted to ECLRS and thus to LHDs.

- Health care response will be supported HERDS. In the pandemic scenario HERDS will be used to report critical information such as event patient admissions and deaths by age group, resource needs, bed availability, emergency plan status, supply and medication inventories, ICU and Ventilator needs. A county-based HERDS instance will allow LHD jurisdictions to submit data on resource and medical counter measure requirements as well as other data such as aggregate reporting of outside-of-hospital deaths. The HCS Clinic Data Management System (CDMS) will support the tracking and dispensing of medical counter-measures at PODS.
- Executive decision maker level decision support and situational awareness will be achieved through a the HCS Executive DashBoard (EDB), providing summary level visualization of data feeds from HERDS, CDMS, CDESS, ECLRS, etc via drill down charts, graphs and maps. Access to the EDB was limited to key executive roles in ComDir for participating LHDs, hospitals state and regional health offices and other response partner organizations. Among the decision maker roles included in EDB access were Public Health Directors, Hospital CEOs, Lead Epidemiologist and Directors of Preparedness, Disease Control and Hospital Emergency Departments.
- **Interoperability Standards**
 - i. NYSDOH supports exchange of automated exchange of human, vector, avian and animal data with regional/national systems using the EDXL suite of standards (e.g. CAP and HAVBED) See below.
 - ii. NYSDOH systems are functionally compliant with PHIN functional standards (See below)
- **Alternative communications –**
 - i. Currently, 48% of NYS LHDs have satellite phones, 70% has an HF, VHF and/or UHF radio, 21% has a relationship with an Amateur Radio Emergency Services (RACES). In addition, HRSA Grantee Hospitals in NYS but outside of NYC report having the following interoperable communications capabilities: 98-100 % have internet access in multiple locations (EOC, pharmacy, laboratory); 72% have at least one satellite phone, most are fixed phones; 45% have sat phones also capable of data transmission; 80% have portable radios for intra and/or inter facility communications; 50% report radio connections with their respective office of emergency management. 60% report a relationship with an Amateur Radio Emergency Services (RACES). There may be moderate to extensive variation in the capacity/capability from region to region. For instance, 4/8 regional and area offices report 100% of hospitals have satellite phones, the remaining 4 vary from 33-60%. The NYSDOH HF radio system is an Automatic Link Establishment (ALE) capable MICOM 2E, 25-125

watts with a 500-Watt amplifier, and is compliant with CDC standards for its National Public Health Radio Network (NPHRN) for HF radio communications. NYSDOH conducts weekly radio check tests with CDC and NYSDOH Capital District Regional Office doing: Voice test with Atlanta Net Control; Voice test with CDC Florida station on a different frequency; and test of ALE, followed by text and voice message exchange.

- ii. New York State Department of Health is developing a plan to enable a method to provide a Statewide Radio Network for Alternate Communications in the event of a communications emergency. The overall plan involves amateur and government radio resources using both VHF and HF systems, which will cluster healthcare facilities, Local health departments and emergency management offices that can communicate at a local level and provide communication through NYSDOH regional and central offices along with the State Emergency Management Office. The state offices have HF radio capabilities with Federal agencies such as CDC, FEMA and the Department of Homeland Security. Utilizing the methods of the National Traffic System information can be transmitted across all tiers from the healthcare facility to the federal government. Hospitals and other facilities without Amateur radio assets could coordinate with the County Radio Officer for the planned deployment of RACES / ARES members and equipment to these locations. County EMOs will have the ability to communicate on amateur HF bands for communications with the NYS RACES Network, NYSDOH and SEMO. Additionally County EMOs and Regional NYSDOH will have a redundant government VHF Low band communications network with all counties and NYSDOH Central Office and SEMO. This plan includes the development of an SOP for operations and reporting based on the National Traffic Management System and in keeping with best practices methodology. The SOP will additionally incorporate standards and protocols as established in the National Incident Management System.

d) **Standards based Bed Availability/HAvBed Reporting**

In an influenza pandemic, there is an urgent need for NYSDOH to collect hospital resources data, including bed capacity and availability, from hospitals and then communicate with federal, state and local emergency response agencies. The ability to exchange data in regard to hospitals' bed availability, status, and capacity enables the NYSDOH, hospitals, and other government agencies to respond to influenza pandemic more efficiently. In particular, it will allow incident commanders to make well-informed decisions in all phases of an influenza pandemic: before, during and after an incident, including where to transport patients and which hospitals are open and have required resources within the pandemic area.

NYSDOH current has the capacity for managing health resources, including

bed tracking, during public health emergencies via centralized, integrated, web-based applications with the nationally recognized HERDS system that has demonstrated at least 89% of participating hospitals being able to report bed availability data within 60 minutes of receiving the IHANS notification alert to submit that data to NYSDOH.

Experience from both real events such as the 2004 Republican National Convention and a number of drills and exercises, such as the 2006 CDEX exercise simulating a panflu event has shown the need for an integrated and standards-based hospital bed tracking/monitoring system that will support NYS and the nation's ability to care for a surge of patients in the event of an influenza pandemic. This will ensure that data on hospital resources, including bed availability/capacity, is collected in a consistent manner, maximizing data quality at all reporting interfaces. The data elements used within the NYSDOH Bed Availability Tracking System are compliant with national standards (HAvBED, HAVE, etc.) and can be shared and reused across the Department and across the public health preparedness community (interstate, nationally and internationally) as well as being supported by explicit and departmentally accepted definitions.

We are also planning for an automated/unattended bed tracking system that will not only reduce the data entry burden for hospitals-especially in emergency situations-but will also reduce data entry errors and reduce the lapse time between when requests for bed data are initiated and receipt of data from hospitals. Many hospitals in NYS metropolitan areas have expressed the need for this system. Many can currently support automated reporting of bed data. In addition, we are working with NYCDOHMH to develop capacity for both manual and automated forwarding data from NYC Hospitals that is collected by the NYSDOH Bed Tracking System to NYCDOHMH.

To ensure the ability to report data to the HHS SOC in a secure and timely manner, NYSDOH has participated in a pilot project with the National Hospital Available Beds for Emergencies and Disasters (HAvBED) System to develop capacity for reporting data to HHS SOC using national standards via a standardized data-reporting interface¹⁰.

e) **Standards based ESAR-VHP Reporting --**

NYSDOH has been hosting a medical practitioner database in production on HCS since 2001 in cooperation with both the NYS Nurses Association (NYSNA) and the Medical Society of the State of New York (MSSNY). This database has since expanded to include other licensed professionals such as PAs, NPs, Vets, Dentists, Optometrists, and Podiatrists. At present, NYSDOH has recorded approximately ten thousand licensed practitioners in its volunteer database.

Currently, medical practitioners can access the NYSDOH medical volunteer database in one of three different ways:

¹⁰ National Hospital Available Beds for Emergencies and Disasters (HAvBED) System. Final report and appendixes. AHRQ Publication No. 05-0103, December 2005. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/prep/havbed/>

- NYSDOH Commerce / HPN: <https://commerce.health.state.ny.us/hpn/cgi-bin/applinks/mpvols/VolunteerQuestionnaire>
- NYSNA Website: <http://register.nysna.org/>
- MSSNY Website:
<http://www.mssny.org/imissite/source/survey/paSurveyForm.cfm>

In an even of influenza pandemic, this system will ensure effective management and inter-jurisdictional movement of volunteer health personnel. It will provide Internet-based registration that is controlled and managed by authorized personnel who are responsible for the data. It will also ensure that volunteer information is collected, assembled, maintained and utilized in a manner consistent with all Federal, State and local laws governing security and confidentiality. Volunteers can be identified via queries of variables as defined by authorized requestor.

f) **Healthcare Services and Healthcare Resource/Asset Tracking and Movement**

The Commerce HEARTS system has been developed to enable the tracking and movement of critical assets and patients across healthcare facilities and healthcare facility types during emergency situations. This system provides for real time tracking of requests and confirmations for transfer and acceptance of patients and assets. The system enables incident management officials to support the needs of facilities through visualization of asset needs and exchanges, and by leveraging data entered in the HERDS data systems by facilities regarding their asset capacities and patient census. This system would facilitate the ability for creating isolation facilities, movement of patients to prevent spread of infection, movement of ventilators, and support transfer of pharmaceuticals where needed based on patient flows.

g) **Mass Fatality**

During a pandemic, in addition to tracking numbers of positively testing, or clinically positive patients admitted to hospitals with the pandemic strain of influenza, the patient tracking module of the HERDS systems can be utilized for tracking patient location, transfer/movement and fatalities for individual patients as well as for collecting aggregate numbers of patients as the pandemic grows in size over time.

7. Procedures for Notification and Information Sharing

a) **Data Interoperability**

Effective preparedness for and timely response to an influenza pandemic requires real-time data from multiple systems across platforms, agencies and jurisdictions. While voice or radio communication interoperability is a critical need for response activities, data interoperability represents another aspect of communication interoperability for not only response but preparedness and planning for an influenza pandemic. The National Incident Management System (NIMS) calls for an interoperable emergency data communications

system linking emergency agencies at all levels of government with other emergency agencies, with the private sector and with nongovernmental organizations. This can be only achieved through interoperable, interagency data communications. NYSDOH has developed a data interoperability enabled architecture using national standards and common data vocabularies. By standardizing data elements across domains and reusing these data elements in message standards, we can enable data interoperability and information sharing across emergency response professions and jurisdictions. The NYSDOH data interoperability environment provides support for both messaging standards and terminology standards.

Using an enterprise data broker engine, we can support all major messaging standards, which specify the format and structure of electronic messages. The messaging standards include two major categories:

- Emergency messaging standards such as Common Alerting Protocol (CAP) a simple, flexible data interchange format for collecting and distributing “all-hazard” safety notifications and emergency warnings over information networks and public alerting systems; Hospital Availability Exchange (HAVE) a XML specification that allows the communication of the status of a hospital and its resources to other emergency agencies, including bed capacity and availability, emergency department status, the available service coverage, and the status of a hospital’s facility and operations; Emergency Data eXchange Language (EDXL) a suite of emergency data message types including resource queries and requests, situation status, message routing instructions and the like, needed in the context of cross-disciplinary, cross-jurisdictional communications related to emergency response including influenza pandemic.
- Clinical messaging standards such as HL7 for influenza-related patient and laboratory information.

In addition, we are developing an enterprise data dictionary and terminology services to support terminology standards, which defines the Department’s data model, describes the content or vocabularies of the actual data elements and data sets to be used in deployment of dynamic forms or for application development, to enable standardized messaging and for improving the quality of information exchange while simplifying the process.

- b) **Alerting and Notification (see section IV.1.g)**
- c) **Risk Communications.** The IHANS system has multiple redundant communications systems/pathways (Parts III, IV and V). It will be used to transmit emergency notifications and informational messages SEMO on a 24/7 basis to cascade to the public sector. Special needs populations and their contact points will be identified through the demographics survey described in Part II.A (Command and Control). These contact points include Media,

Community agencies for special populations, and Other Community partners that can rapidly disseminate (cascade) DOH generated alerts and information to the general public, such as reverse 911 dispatch center.

- ii. **Training.** Materials for risk communications training will be made available on the Commerce websites to facilitate ongoing or just in time training of PIOs at partner organizations (LHDs, health facilities, etc.). The IHANS system will be used to notify PIOs of postings
 - iii. **Community Resources.** The NYSDOH public website will function as part of the Disaster Recovery and high availability architecture (Part V). Public information bulletins and notifications will also be posted on the public web. Summary data regarding outbreak status will be derived from the integrated dashboard system, processed and made available as unauthenticated, but secure and certified links to the commerce system from the public web site. Data provided to the public will include:
 - Patient locator. Public access to Probable location of de-identified event patients admitted to Health facilities, isolation facilities reporting via HERDS patient locator.
 - Number of hospital admissions for ILI – updated daily
 - Number of ED visits for ILI – updated daily
 - Number of deaths from ILI – reported daily
 - Number of confirmed pandemic influenza cases – reported weekly
 - Number of newly hospitalized pandemic cases – reported daily
 - Number of newly quarantined pandemic cases – reported daily
 - Number of hospitals with pandemic cases – reported daily
 - Total number of pandemic cases -- reported dailyData will also be visualized on maps, including:
 - Spread of ILI cases across the state – updated daily
 - Counties that have imposed quarantines for ILI – updated daily
 - Hospitals that have confirmed pandemic cases – updated daily
 - Areas of travel restrictions – updated daily
- d) **Operating Plans for Two-way Communication**
 - e) **Alternative/Redundant Communications**

8. Dissemination of Essential Information – Remote Meeting/Collaboration; Distance Learning

- a) **Contact Information**
- b) **Video Conference (VC).** All 57 LHDs and 4 regional Offices have video-conference capacity. Some 100 hospitals report VC capacity. Hospital video-conference capacity and contact information is available through the bridges: one at the main computer room site and one at the DR site at 800 North Pearl Street. Depending on the resolution desired, each bridge supports 15 ISDN

connections at 384k or 23 ISDN connections at 256k. The bridges may be cascaded to double the number of concurrent sessions. The bridges can also be cascaded with external commercial providers to add additional sessions to a conference. Internal to NYSDOH Healthcom Network there each bridge also supports and additional capacity for 12 IP connections at 384k. Contact and scheduling information for Conferences is provided in Appendix 13-A. External organizations wishing to connect to NYSDOH VC sessions must register for certification using the contact information in Appendix 13-A. The communications capacity established to support VC for LHDs is also outfitted equipment necessary to provide a non-internet-based method to access commerce should the internet be unavailable

- c) **Webinar.** The Health Commerce supports a secure Webinar system, using the commerce login and encryption. Scheduling and contact information is provided in Appendix 13-A.
- d) **Secure Discussion Forum (SDF).** The SDF capacity, described previously, provides for mechanism for rapid, ad hoc, establishment of secure collaboration and discussion on any topic, avoiding the use of e-mail over the internet, which is not secure. Forums can be assigned to specific commerce users who may independently control access to their collaboration sessions. Users granted access to a discussion forum may post files and engage in text based discussions and commentary. A forum user may also choose to be notified by e-mail when ever a new item is added to their forum. Contact information on set up of SDF is available on request to hinweb@health.state.ny.us and via the HAN Coordinator.

IV. Commerce Critical Application Infrastructure and Detailed System Functional Descriptions

1. Core Systems

The NYSDOH cross-functional Public Health Preparedness (PHP) Informatics Team used CDC Functional Self-Assessment Tools (FSATs) to identify NYSDOH PHP applications compliance in meeting PHIN standards. The percentages of PHIN critical requirements that have been met are as follows: Early Event Detection (EED) – 87%, Outbreak Management (OM) – 55%, Countermeasure and Response Administration (CRA) – 54%, Connecting Laboratory Systems (CLS) – 87%, Partner Communications and Alerting (PCA) – 68% (with cascading), 74% (without cascading), Cross-Functional Components (CFC) – 54%.

Under leadership of the new Office of Health Information Technology Transformation (OHITT), responsible for coordination, development, and implementation of the strategic plan for Health IT in NY State, NYSDOH is developing a core services foundation to enabling key application functions. NYSDOH is developing “core services” aligned with the vision of the Statewide Health Information Network, NY (SHIN-NY) and builds upon the HHS Office of the National Coordinator for Health Information Technology (ONCHITT) use cases and technology standards that will eliminate redundant development of functions across NYSDOH applications and enable rapid assembly of processes required by interoperable PHIN functions: OMS, CRA, EED CLS and PCA.

- a) **A Service Bus architecture** implemented on the Commerce network will enable interoperability via sharing/messaging of cross functional data among the PHIN functions using standard messages as described in AHIC use cases and PHIN requirements.
- b) **An Enterprise Data Dictionary (EDD)** service being created to provide a dictionary/vocabulary service of standard data elements to be used for collecting and sharing of data in and across the developed PHIN functions that comply with the APIC biosurveillance use cases and other data standards including EDXL elements for resource tracking: HAVE/HAvBed and for alerting: CAP; and PHIN standards for; for OMS/Communicable disease case reporting, CRA, and HL7 for laboratory data.
- c) **A “Formbuilder (FB)” service** has been developed to enable dynamic field, template and forms creation and real-time rendering/deploying of these forms by PHIN functions without programming. In the future, FB will provide functionality for creating “occasionally connected client” capacity on Commerce network for form deployment and data replication when web access is unavailable. FB will support PHIN functions, e.g., CRA, OMS in the field. FB tools will use the EDD service in order to assure PHIN compliant forms are produced with standard vocabulary and field formats.
- d) **Patient index/record locator service:** will be developed/implemented to enable de-duplication and record matching of person case records across the PHIN functions.
- e) **NYSDOH ComDir; (public health directory)** will provide all directory services for sharing organization information and role based, person and location contact information to the PHIN functions. ComDir will also provide role based controlled access to individuals using the PHIN functions.
- f) **Health Alerting and Notification** will be made accessible to the service bus and will provide all levels of notifications to role based contacts as defined by PHIN requirements for each of the PHIN functions.
- g) **Identification of public health incidents:** NYSDOH modeled Office of the National Chairman for Health Information Technology (ONCHIT) Biosurveillance, Emergency Responder EHR, EHR Lab, and Consumer Empowerment Use Cases, to develop two Health Information Exchange (HIE) use cases for:
 - Exchange of patient visit, hospitalization, lab result and hospital resource data between Regional Health Information Organizations (RHIO), the NYSDOH and its authorized public health (PH) partners in standardized format with an under24 hour lag time for biosurveillance needs; and 2) Make available current and historical medication information to New Yorkers in secure/easily accessible format; in emergency situations connect them to their clinicians for prevention, wellness, disease management, and emergency response information. These use cases will be implemented under the Health Care Efficiency and Affordability Law for New Yorkers Capital Grant Program (HEAL NY) and will support implementation of New York’s health information infrastructure to improve PH practice and support PH Emergency Preparedness needs using common HIE protocols and services via SHIN-NY.

- In addition to existing systems for Identification of public health incidents e.g. Syndromic Surveillance, Electronic Lab Reporting System (ECLRS), Health Emergency Reporting Data System (HERDS), a joint response put forth by NYSDOH and NYCDOHMH for the CDC's HIE program has been awarded to improve situational awareness and reporting for PH purposes on a state-wide basis through timely collection, analysis, and evaluation of clinical case information using a state-of-the-art public health HIE service and Nationwide Health Information Network (NHIN) emerging standards.

g) Analysis of data about health incidents –

- NYSDOH has conducted focus groups with local public health and State DOH programs to compile needs for an OMS solution. The OMS solution is supported by integrating data from existing case reporting (CDESS), laboratory results systems (ECLRS), CRA solution functions, and will be built upon the NYSDOH core services for dynamic forms, alerting, vocabulary, and patient index/record locator.
- NYSDOH data visualization and GIS functions are accessible as core services and able to process visualization requests from the PHIN functions and display the visualization products in an Executive dashboard template/stylesheet, access controlled by standard data sharing agreements.
- NYSDOH complies with LIMS integration standards, vocabulary, and best practices for interoperability between laboratory information systems and the LRN Results Messenger application and is currently testing a distributed system supporting Rabies non-human testing and including remote submission of specimen test requests, specimen management and testing within Wadsworth, subsequent results distribution to submitting organization and Local Health Departments, summary and management reports creation, data preparation for transmission to CDC via NETSS, and electronic integration with NY's Rabies Case Reporting System. Successful development/deployment of this environment supports future electronic requests for other lab test types to Wadsworth Lab.

c) Communication of information about health incidents:

- NYS will implement, bi-directional cascade alerting with CDC programs (e.g., Epi-X) and CA and other States using the PCA compliant IHANS service and ComDir directory services for maintaining partner addressing. IHANS/ComDir will produce EDXL/CAP standard format/vocabulary alert files for PHINMS transport of notifications regarding disease incidents and develop the appropriate inbound processing of PHINMS messages received from other partners, to include review and re-dissemination to over 90% of incident specific, appropriate recipients in our stakeholders population.

d) Intervention in public health incident:

- Develop cross functional business and functional requirements for Clinic Management, Adverse Event Reporting, Isolation and Quarantine, and pharmaceuticals and supplies Inventory Management functions of a CRA solution that will be built on the core services to provide required processes, e.g. the patient index/record locator service for correct case linkage to share information

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- with other PHIN functions, and utilize the FB capacity to produce forms that can be downloaded to occasionally connected clients.
- Support of mobile device interface to and data exchange with critical response applications will be enabled via deployment of a new portal architecture on the secure Commerce network. HERDS will be the application used to initiate this capacity.
- e) **Internal NYSDOH Office Automation (OA) and workflow support.** All agency staff (Central Office, Regional Offices and District Offices) use Lotus notes (domino) OA systems for internal/external e-mail communication, coordination and electronic support of workflow processes. The system supports mail logs (Bureau Mail Logs [BMLs]), internal discussion databases, agency-wide applications and a workflow processing system, Team Room. These OA systems are supported within the agency Disaster Recovery and availability architecture (below) and provide a central platform for Agency communications and workflow required to support any Public Health preparedness (PHP) event.
- f) **Health Alert Network (HAN) web site.** The HAN web site on commerce is accessible to all commerce users. The site includes:
- A viewer for alerts posted automatically by the IHANS system. Alerts can be posted as open to all users or restricted to specific roles/organizations to whom the alerts are sent.
 - Linkages to detailed topical areas of current interest with in-depth resources and information on each topic. These include: influenza, SNS, West Nile/arbovirus, SARS, cybersecurity, Terrorist agents (chemical, radiological biological), etc.
 - Protocols and information resources for response partners
 - Digital Photograph submittal. Allows health facilities to submit a digital photograph of a suspect case for review by a medical epidemiologist. Submittal of a photograph initiates an electronic workflow for review of the image and correspondence with the submitter and triggers IHANS to notify State Epidemiology staff and the duty officer system.
 - The HAN Web site is located at:
<https://commerce.health.state.ny.us/hpn/hanweb/hanhome.shtml>
- g) **Secure Collaboration.** A secure discussion forum system is available on the commerce system. The forum provides for open or access controlled discussion groups to be set up on the fly and controlled by a moderator, allowing members to post files and carry on secure collaborative discussion topics. On activation of an electronic incident (different from a survey or surveillance form) in HERDS a secure access controlled discussion group is automatically created and access granted to the affected facilities and jurisdictions. The discussion forum is available at:
<https://commerce.health.state.ny.us/frm/cgi-bin/applinks/forum/WebX>
- h) **Secure file transfer.** Files may be securely transmitted between any two commerce users. Files sent by a user are virus scanned and sent to an electronic drop box, the recipient is notified by e-mail on arrival. The sender is notified by e-mail that he

recipient has downloaded the file. The utility is available at:

<https://commerce.health.state.ny.us/hpn/ctrldocs/genfxr/filetransfer.html>

2. Integrated Health Alerting and Notification System (IHANS).

Sends and receives emergency notifications and informational messages using contact information listed for targeted roles in the ComDir. IHANS transmits notifications to individuals via multiple modes, e.g. e-mail, fax, secure web posting and phone call out (cell, pager, office or home phone), depending on level of incident (Appendix 13-E). IHANS is CAP/PHIN compliant. Business rules of IHANS use, access and notification level definitions are provided in Appendix 13-E.

a) Functions

- **Notification Tool.** A web-based commerce application allows for sending electronic notifications. It is available for use only by defined roles at the State, regional and local level. It provides for notification as well as secure posting of content. Business rules for access, use and scope of alerting allowed are provided in Appendix 13-E. Tabular reports are available for monitoring completion rates of all notifications types and confirmation rates for phone and email. Redundant IVR systems (Interactive Voice Response) support phone and pager notifications. Phone notifications include confirmation of receipt functions. Notification content can be automatically posted on the NYSDOH HAN using the Notification tool (Appendix 13-E). Notification postings can be made open to any commerce user or restricted to specific organizations and roles. All State Regional health offices and all Local Health Offices, including NYCDOHMH, have staff members who are trained and certified in the use of the Notification system, which is available at: <https://commerce.health.state.ny.us/hpn/cgi-bin/applinks/ams/mainmenu>.

Notification recipients may be targeted by organization, roles, geographic location and by custom lists from the ComDir. The list creation tool is available at: <https://commerce.health.state.ny.us/hpn/direct/hincomm.html>

- **Automated Notification functions.** IHANS also supports automated notification generation using XML messages. This supports alerting functionality of PHP applications such as HERDS and the Electronic Clinical Laboratory Reporting System (ECLRS). Thus, HERDS can automatically transmit alert level notifications to all affected health facilities and health jurisdictions when it is activated.
- **Testing and response.** Local Health has participated in drills and just in time HERDS surveys for public health events (such as vaccine shortage in 2004), where the notification system was used. Response rate was 95% within the time frames allotted for LHDs to respond to the alert/ or information request. Drill involving cascade of Epi-X alert through NYSDOH commerce alert system to 180 recipients across 57 LHDs showed 88% response rate in less than 30 min and 95% under 1.5 hrs. The 2005 EpiX NYS Proficiency drill results were even stronger, in that 95% of the 57 Counties + NYCDOHMH

confirmed receipt of notification within half hour; 97% within 1 hour; 98% within 3 hours, and only 1 county confirming after 3 hours giving a 100% response rate and a mean time to confirm receipt of 11 minutes.

b) IHANS Infrastructure

- **Interactive Voice Response (IVR) Systems.** The IHANS system and HERDS alerts utilize phone-based notifications. Health alerting and notification protocols are in Appendix 13-E. On activation the HERDS system can use the IHANS system to initiate alerting of affected facilities and jurisdictions.
- **Phone (land, cell, satellite, numeric pager) notification infrastructure** is supported by two IVR servers/systems (Avaya/Accuvoice): one at the NYSDOH ESP main site and one at its DR site (800 North Pearl St.). Each supports outbound text to speech for outbound notification messages and keypad acknowledgement of receipt of notifications. Each IVR supports 48 lines. Rather than function as a failover, both IVRs will be available concurrently and so total capacity of the system is 96 lines. Should one IVR go down, the second IVR will continue to process any ongoing notifications and serve as uninterrupted alerting capacity. Five lines are available to support the Duty Officer Call in system on one of the IVRs these can be rapidly re-provisioned in an emergency to be utilized for additional call out capacity. Work is being done to enable a capacity for in-bound phone surveys that could be used during a pandemic to capture health information data from ill individuals in quarantine via a quick call in survey.
- **Mass Fax.** The fax appliance capacity has been upgraded and consists of two digital appliances: one at the main site at ESP and one at the DR site, each with 24 digital lines, for a total capacity of 48 lines. These appliances function simultaneously and if one should fail, the second will complete the faxing job. The new appliances allow for recording of fax delivery status of each fax attempted in an Oracle database, which allows for immediate compilation and reporting of the success or failure of each call in the fax job. Lotus Notes has a separate capacity (8 lines) for routine bulk faxing.
- **BlackBerry.** NYSDOH supports Blackberry wireless communications for key NYSDOH executive and PHP response staff. There are currently 151 users. DOH owns 165 licenses and the current servers can support up to 2000 licenses. Redundant Blackberry servers are available at both the main ESP computer site and the DR site
- **HF Radio.** The HF radio system, located at 800 North Pearl, covers the frequency range from 3 to 30 MHz and uses Single Sideband (SSB) Suppressed Carrier and, at reduced power, Amplitude Modulation with carrier. It is a Mobat model 500E with four power output settings ranging from about 100 watts to 500 watts peak envelope power (PEP). The radio is Automatic Link Establishment (ALE) capable, but has not yet been tested in that mode. The radio is also equipped with digital mode communication using an external laptop computer and an MFJ –1275 soundcard interface. Software in the laptop allows use of the radio for RTTY (radio teletype) and

weak signal PSK-31 (phase shift keying) modes.

The antenna system consists of two separately fed radiators mounted on the roof of the building at 800 North Pearl. One antenna is a B&W broadband folded dipole 90 feet in length and up about 15 feet from the roof surface. The other radiator is an east-west long-wire about 280 feet in length supported 40 feet above the roof, tuned with an SGC model 235 automatic antenna tuner. At the radio, an antenna switch allows selection of either antenna as well as a dummy load for “off air” testing. The system is currently licensed to operate on 14 channels, each 6 kHz wide.

CDC has obtained the frequencies for use with CDC related operations. The radio is also equipped to operate on amateur radio frequencies from the 80-meter band up through the 10-meter band using SSB, RTTY and PSK-31. The last CDC sponsored SSB (voice) testing was completed in the summer of 2005. ALE has not been tested with our radio for lack of an ALE partner network. Digital mode communication has been tested on the amateur frequencies with PSK-31 working especially well in weak signal conditions.

- **Satellite Phone.** The NYSDOH maintains a Health Operations Center collocated with the DR site at 800 North Pearl Street, Menands, NY. The DR site includes a fixed satellite base station (GlobalStar Network) for alternate voice communications using satellite phone.
- i) **Duty Officer System.** NYSDOH maintains a duty officer system that provides for call routing and triaging of health emergency calls to appropriate PHP response personnel, including Epidemiology and Wadsw
- 3. Communications Directory (ComDir).**
- a) A central integrated repository for electronic role and contact information on the Commerce System. Coordinators appointed by a Public Health Director or CEO of participant organizations maintain their organizations’ entries in the directory using web tools. Health facilities are required by NYSDOH regulation to maintain active coordinators and to maintain this information up to date. Roles in the directory are linked to electronic roles in the workflow process of applications such as HERDS.
- Each organization is therefore empowered to: (1) identify and appropriately assign in the directory those personnel who should function in electronic roles and access applications on commerce; and to (2) specify their own contact (emergency and business) information.
 - ComDir entries contain contact information for both non-person (place) locations and person-based roles. Organization’s directory coordinators and persons within roles are able to interactively prioritize method and time of contact depending on alert/notification level. Roles are customized by organization type.
 - Directory Coordinators have access to tools that facilitate management of their organizations view of the directory. Reports and alerts are periodically sent to coordinators regarding the quality, completeness of their data in the directory, ensuring their entries are up to date.

- Coordinators and users of the *IHANS* (below) are able to create and store customized lists to be used in the alerting process.
 - Business rules established in collaboration with partner organizations allow for access (not view) to non-personal contact information for purposes of sending alert or advisory level notifications.
 - Utilities for updating contact information, looking up contact information by organization and role and creation of contact lists are available on the commerce system at:
<https://commerce.health.state.ny.us/hpn/direct/hincomm.html>
 - A Lotus Notes interface to ComDir is also available to NYSDOH executive staff.
- b) **Commerce Accounts Management.** The Commerce Account Management Unit (CAMU) is responsible for establishment of accounts on the commerce system. An account ‘help desk’ is available for questions regarding account establishment (Appendix 13-A). Coordinators at health facilities and local health departments have access to electronic tools that allow them to request and monitor accounts for staff in their organizations. Health Facility (HPN) Coordinator account tools are available at: <https://commerce.health.state.ny.us/hpn/help/hpncoord.html>. Local Health Coordinator (HIN) account tools are available at: <https://commerce.health.state.ny.us/hin/software/coord.html>.

LHDs also have an additional account privilege, which provides for rapid account creation and account affiliation with their organization for local response partners. In the event of an emergency declaration this local capacity would be used as the mechanism for mass account sign-up for key response partners with immediate need for access critical functions such as health alerting, collaboration and clinic management. Individual licensed practitioners may request commerce accounts for themselves or their practice at the following URL:

<https://commerce.health.state.ny.us/pub/>

Bureau of Narcotics Enforcement (BNE) reviews these requests as part of the prescription pad registration process and has a helpdesk established to assist practitioners (Appendix 13-A).

4. Health Emergency Response Data System (HERDS). HERDS is part of an application framework that provides a real-time flow of data from the healthcare community to state, local and regional public health. Electronic surveys, surveillance activities or electronic incidents of any nature can be created and deployed on the fly without programming. Surveillance reporting can be activated and intensified as an event proceeds. Health facilities, or other organizations can be activated selectively (individually, by county, by region or statewide) to report via specific forms. Once activated the affected facilities and jurisdictions are automatically alerted using the *IHANS*. State, regional and local health jurisdictions are able to access the data as soon as it is reported by the facilities. HERDS also has an integrated GIS system which allows state, local and regional health to visualize and analyze the data in relation to key spatial layers. HERDS may be activated at the request of local and regional health jurisdictions upon approval by NYSDOH executive staff to deploy surveys and incidents within their

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jurisdiction for local emergencies. HERDS has been deployed to all hospitals, nursing homes and LHDs in NYS and deployed with veterinarian offices and school nurses at public and private schools, each of whom work with groups whose disease incidence and exposure are significant indicators to monitor during pandemic alert and early pandemic stages. Deployment to home health care and adult care facilities occurred during Q4 of 2006. Details on the HERDS system are provided the published literature⁷.

Related HERDS statewide electronic reporting systems currently active for hospitals include:

- Airborne Infection Isolation Room (AIIR) capacity. A complete, audited inventory of all AIIR room capacity, attributes,
- Critical Assets Survey. Detailed inventory of surge capacity by bed type, equipment (Vents, PPE, etc), ED capacity, attributes (e.g., decontamination facility, burn center, hyperbaric chambers, trauma center), staff capacities, pharmaceuticals (antibiotics, antidotes), generators, communication capacities (video, data and voice, internet), transportation (ambulance, helipad).
- Influenza Surveillance. Lab confirmed admissions by age category.
- Influenza vaccine supply. Dosages available and needed by risk group.
- Bed Availability. Ongoing survey of adult and pediatric hospital bed availability by bed type (burn, critical care, general medical/surgical) and patients waiting in the ED.
- Patient Locator System. Provides for tracking of event-related patients hospitalized or admitted to the ED.
- Survey of Antibiotic Usage Protocols. Antibiotic control interventions, ordering, rotation, use, hand hygiene procedures, and anti-biograms in use for following resistance patterns of organisms in the facility.
- HRSA Baseline Survey. Hospital Capacities and program infrastructure for planning related to response to PHP Events.

The hospital HERDS instance is located at:

<https://commerce.health.state.ny.us/aps2/applinks/hospicap/BuildMenu?menu=hospicapMenu>

Related HERDS statewide electronic reporting systems currently active for nursing homes include:

- Flood Emergency Facility Status
- Western region Snowstorm, October, 2006 Critical asset survey (similar to hospitals)
- Vaccine supply inventory
- Mental Illness Mental Retardation/Developmental Disability Survey
- Influenza surveillance. Not activated but can be as needed.

The Nursing Home Instance of HERDS is located at:

<https://commerce.health.state.ny.us/doh3/applinks/nuhsur/mainMenu.do>

The HERDS instance for Local Health Department reporting is operational and in use for specific reporting functions. Local health response capacity surveys cogent to the planning process include

- Performance Metric Survey for 2005
- Public Health Preparedness Final Report 2005
- Public Health Preparedness Survey June 2005.

It is available at:

<https://commerce.health.state.ny.us/doh3/applinks/cosur/mainMenu.do>

Each of these HERDS instances has the ability to generate an electronic reporting/surveillance or tracking form in real time, in support of any inventory tracking or response needs of a Pandemic influenza event.

5. Data Analysis and Visualization (DAV)/Geographic Information Systems (see Appendix 13-D).

- a) **Geographical Information System (GIS).** Commerce system supports spatial DAV through a web enabled COTS GIS viewer system (ESRI/ARCIMS). Basic geographic layers (e.g., transportation, geo-political boundaries, place locations, water boundaries), health-response related point locations (e.g., health facility locations) and health data layers are available through the commerce spatial data warehouse (ERSI). The GIS viewer system integrates with HERDS and supports full featured queries and display of any reporting system deployed in HERDS. Hospital assets, vaccine inventory and influenza surveillance functions listed above are available in real time for GIS DAV. Hospital assets, vaccine inventory and influenza surveillance functions listed above are available in real time for GIS AVR. This capacity is also available for other HERDS instances for other facility types, such as nursing homes, and for LHDs. A GIS capacity also exists for CDESS and this will be migrated to the generalized GIS viewer in the sale timeframe.

The HERDS GIS Viewer is located at:

<https://commerce.health.state.ny.us/map/doh2/applinks/hospcap/new/>

- b) **Executive DashBoard (EDB).** An executive dashboard system is available for just-in-time activation and use in a PHP event. The dashboard provides an integrated portal providing summary visualization of key information systems on health commerce to provide executive decision makers with high-level situational awareness and decision support. It also provides access to key functions (ComDir, alerting and secure collaboration) from a single web interface. On activation the IHANS system will be used to distribute links to the EDB for key ComDir roles within the affected organizations
- c) **Report Tables, Charts, Graphs.** Event specific report tables, charts and graphs are produced by an automated SAS interface to HERDS and other response data systems. A generalized viewer is available for just-in-time access to this information. On

activation, the link to the viewer will be sent to key ComDir roles in affected organizations using the IHANS system. A more generalized system for data visualization and dynamic queries for tables and charts was made available for use to NYSDOH executive staff during the May 30-June 4, 2008 Empire Express Exercise

6. Disease Surveillance and Related Commerce Systems

- a) **Communicable Disease Electronic Surveillance System (CDESS).** The Health Commerce system has supported a web based statewide electronic communicable disease reporting system since 1996. It provides for case reporting of all NYS reportable disease conditions using an electron version of the DOH-389 core form. Reporting includes various reportable influenza conditions. Electronic reporting of disease-specific supplemental forms is also supported through the system. The system has recently been revised to a patient centric reporting system which supports contact tracing and minimal isolation and quarantine for SARS and (novel virus) pandemic influenza. ECLRS is integrated into the system. The communicable disease reporting system (CDESS), ECLRS, arbovirus surveillance, emergency department surveillance systems, related reports and supportive disease reporting information, including influenza may be found at the communicable disease reporting home page: (<https://commerce.health.state.ny.us/hin/hinapps/commdis/commdis1.html>) or as links from the HPN Data submission page.
- b) **Electronic Clinical Laboratory Reporting System (ECLRS).** Health Commerce has supported a statewide electronic lab reporting system (ECLRS) for (positive) laboratory test results for NYS reportable disease conditions. The system supports electronic submission via web form, file upload of standardized messages and automated transmission using the CDC PHIN standards messaging system (EbXML). Message formats and syntax accepted include HL7 with LOINC/SNOMED vocabulary. Flattened formats are also available for those labs that do not yet support the standards. Some 260 labs report Communicable diseases electronically to ECLRS, including national labs such as Quest and Lab Corp. Lab test results received from labs by ECLRS are automatically and electronically routed to the county of jurisdiction and may be directly imported into CDESS to establish a case. Sixteen reportable diseases are designated as priority notification which triggers an automated phone call 24/7 to the county of jurisdiction alerting them to the case. ECLRS links to the Communicable Disease surveillance system.
- c) **Nosocomial Outbreak and Reporting Application (NORA).** Provides for general reporting by hospitals and nursing homes, and follow-up by NYSDOH central and regional offices, of Nosocomial (i.e., health facility acquired) outbreak incidents at health facilities (nursing homes and hospitals), respiratory (ILI, influenza) being one of the reporting capacities. The NORA Application is available on the Infection Control Home Page: (<https://commerce.health.state.ny.us/hpn/ifecontrol/ifecontrol.html>)
- d) **Statewide Arbovirus reporting system.** Supports mammal, avian and vector surveillance and reporting for WNV, EEE and SLE. Capacity is available for reporting animal/avian influenza.

- e) **Emergency Department Surveillance System.** Supports Electronic Emergency Department Surveillance for Unusual Disease Clusters by Local health Departments. This includes Respiratory Illness with fever.
- f) **Syndromic Surveillance System.** Supports statewide syndromic surveillance for OTC medications, Medicaid prescriptions and for specific regions in the state, ED chief complaint data.
- g) **Medical/Professional Volunteer Database**
Licensed medical/dental/veterinary professions joining the commerce system through the BNE outreach efforts may electronically sign-up as volunteers for health events using the volunteer database system available to practitioners on their specific practitioners pages on commerce. The Public Health Preparedness Volunteer Practitioner Database allows NYSDOH to track professions, availability, contact information, attributes and skills (e.g., languages spoken, etc.) of volunteer practitioners). The IHANS system is used to alert the volunteers in the event of their need for activation. Local health Departments have access to this information within their respective jurisdiction. The practitioner page is available at:
<https://commerce.health.state.ny.us/hpn/practitioners/practitioners.html>

The New York State Department of Public Health Preparedness Volunteer Practitioner Database is a relational data system which stores the volunteer information of licensed medical professionals who have accounts on the Health Provider Network (HPN) Commerce site, or who have volunteered for the statewide system through the Medical Society of the State of New York (MSSNY) or the New York State Nursing Association (NYSNA). The database also stores information for medical and non-medical personnel who have registered as volunteers for local health departments and for locally based MRCs. This information is then available for retrieval through a reporting tool on the Commerce site which allows the searcher to locate medical professionals by profession, county of residence, and additional credentials such as reported specialties or certifications. The two primary components of this system are the volunteer questionnaire and the search application.

The Volunteer Questionnaire application enables licensed health care professionals (with HPN accounts and access) to become a volunteer for deployment in times of emergency. The on-line, web-enabled questionnaire allows users to provide the Department with information such as contact information, home and work addresses, board certifications/certifications, profession specialties, hospital and agency affiliations, other emergency responder commitments they may have, as well as languages spoken and an estimate of time to respond specific emergency needs. The application provides the volunteer the ability to update or add to their information at any time. This volunteer data storehouse is being expanded to accommodate any new elements as we identify the needs.

The Questionnaire can be accessed directly at:
<https://commerce.health.state.ny.us/hpn/cgi-bin/aplinks/mpvols/VolunteerQuestionnaire>

The volunteer search page enables DOH personnel, local county health personnel and

others with special access to search the health care volunteers in the system by profession, county of residence, specialty, board certification, county, and hospital/health care facility association. Information provided in the results screen includes the volunteers profession, address, contact information (phone number, email address, fax or pager number), any hospital affiliation and an indication of the volunteer's willingness to assist in an emergency beyond their county. This information is provided in a column report which can be sorted by any column selected, and a button is provided to permit the searcher to download the information to their PC.

The Volunteer Home Search can be accessed directly at:

<https://commerce.health.state.ny.us/hpn/cgi-bin/applinks/mpvols/VolunteerHome>

h) **NYSDOH Staff Emergency Contact and Volunteer Database**

A database has been established for reporting, tracking and collecting emergency contact and volunteer information for each employee in state DOH and HRI. It is based in the agency enterprise Office automation system, Lotus Notes. The Commissioner has mandated that every employee provides contact information about their work location, job title, contact number(s) and a means to contact them at home directly or through the auspices of an emergency contact. There is a tracking system that is used by the human resources group to make sure that this part of the information is being completed. The information will be used by duly authorized emergency managers to contact employees at work or home in case there is an emergency. It has a reporting tool to produce lists of people matching a variety of characteristics. E-mail alerts can be sent to these lists of people. A second, voluntary part of the application is to collect information about how an employee could volunteer services of special resources and skills they may have. For instance they may be a licensed EMT, or a nurse, or be able to drive a 4-wheeled vehicle. The application is being expanded by using automated workflow to automatically obtain supervisor's approval for release to volunteer duty.

**Appendix 13-A. BHNSM Incident Management System
Automated Bureau Mail Log (BML) Notification Contacts and Roles**

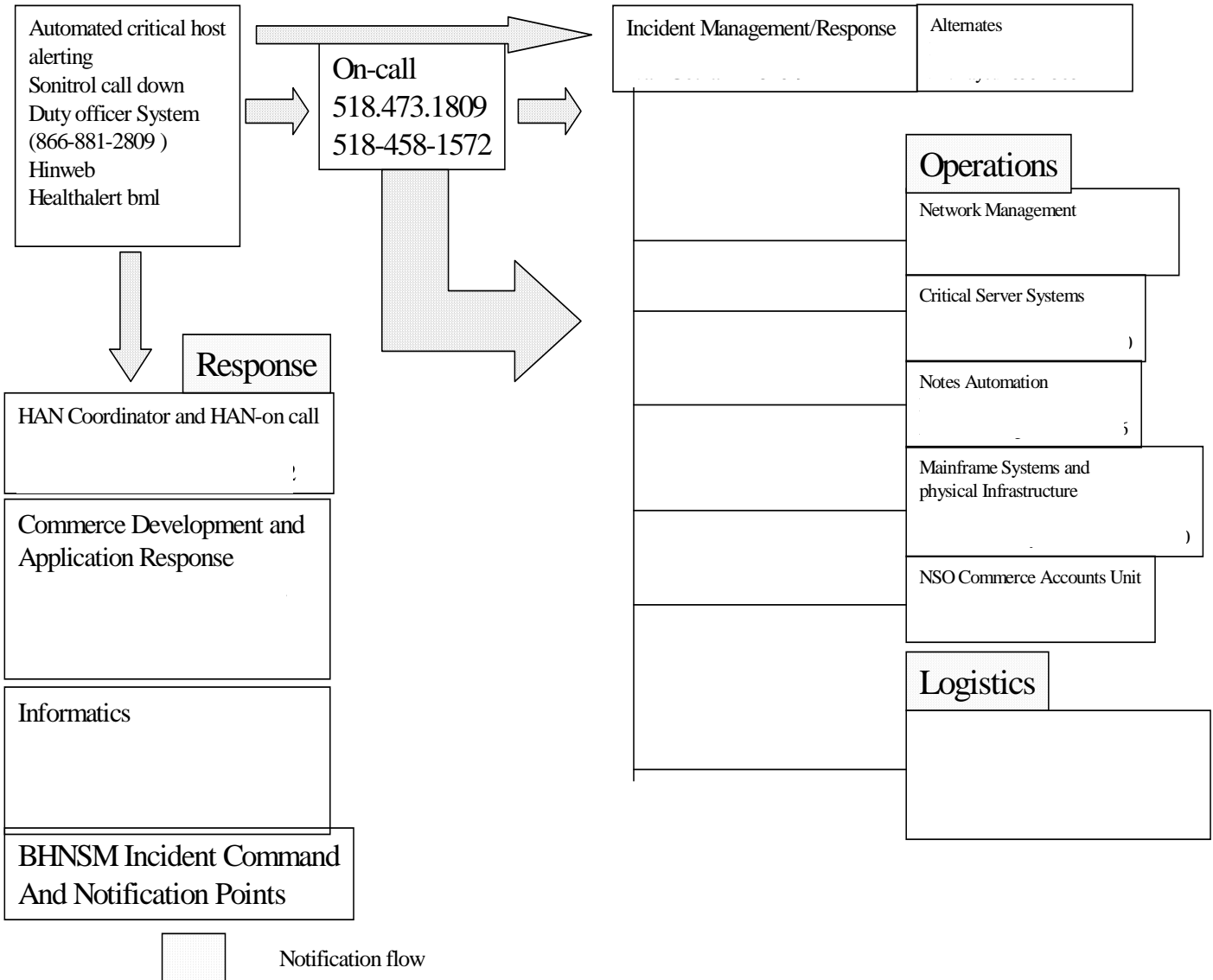


Table 1a. Informatics Contact Information

Function	Contact Name	Phone	E-mail
BHNSM Infrastructure Response 24x7 On-Call		518-473-1809 518-858-1572	
DOH Duty Officer		866-881-2809	
BHNSM Incident Commander		518-473-1809	
BNE Help Desk for Providers Prescription Registration Program		866-811-7957	narcotic@health.state.ny.us
BNE Assistance with provider HPN sign-up Process			docpbml@notes.health.state.ny.us
Commerce Accounts Management Unit (assistance with HIN/HPN accounts)		866-529-1890	hinhpn@health.state.ny.us
HIN/HPN WEB		518-473-1809	hinweb@health.state.ny.us
Public Health Preparedness Web Application Support		518-473-1809	hinweb@health.state.ny.us
Video Conferencing Scheduling and certification		518-473-1809	vidbrdg@health.state.ny.us
HAN Coordinator		518-473-1809	
Webinar scheduling and certification		518-473-1809	vidbrdg@health.state.ny.us
NYSDOH Health Operations Center Satellite Phone		518-473-1809	hinweb@health.state.ny.us
Commerce Informatics Training Staff		518.473.1809	hinweb@health.state.ny.us

Table 1b. Automated Bureau Mail Log (BML) Notification Contacts and Roles.

<p>Organization domains with e-mail alert submittal access to Health Alert BML warning point. (healthalert@health.state.ny.us)</p>	<ul style="list-style-type: none"> • NYS Office of Homeland Security (inclusive of CyberSecurity) • US Centers for Disease Control • NYC Dept of Health and Mental Hygiene
<p>NYSDOH Roles alerted to Health Alert posting to Health Alert BML</p>	<ul style="list-style-type: none"> • Director, Public Health Preparedness and on-call team • Incident Commander for Bioterrorism (or biological event) • Incident Commander for Chemical Radiation event • Director, Wadsworth Public Health Laboratory • State Epidemiologist • Director, Communicable Disease Control • Director, Environmental Health • HAN Coordinator • BHNSM Informatics Response Lead • Director, OHSM • Public Affairs Group • Director, Hospital Preparedness • HERDS Incident Commander • Director, Hospital Program • Director, Office of Science and Public Health
<p>NYSDOH roles able to activate HAN posting requests through hinweb BML (hinweb@health.state.ny.us)</p>	<ul style="list-style-type: none"> • Executive Deputy Commissioner of Health • Director, Public Health Preparedness and on-call team • Incident Commander for Bioterrorism (or Biologic event) • Incident Commander for Chemical Radiation event • Director, Wadsworth Public Health Laboratory • State Epidemiologist • Director, Communicable Disease Control • Director, Environmental Health • PHP Bioterrorism Epidemiologist • Medical Director, Immunization

	<p>Program</p> <ul style="list-style-type: none"> • Director, Hospital Preparedness • HERDS Incident Commander • Director, Hospital Program • Director, Office of Science and Public Health
<p>NYSDOH Roles Notified on Submittal of Digital Photograph from HAN</p>	<ul style="list-style-type: none"> • Incident Commander for Bioterrorism (or Biologic event) • State epidemiologist • Director, Communicable Disease Control and related on-call team • Infection Control • Director, Office of Science and Public Health • PHP Bioterrorism Epidemiologist • Regional Epidemiology • State Veterinarian • BHNSM Incidence Response • HAN Coordinator

Appendix 13-B: NYSDOH Individual and Organizational Security, Use and Nondisclosure Agreements

**DOCUMENT 1
NYSDOH HEALTH PROVIDER NETWORK (HPN)
PARTICIPANT ORGANIZATION SECURITY AND USE POLICY and
APPLICATION**

I. Introduction

The New York State Department of Health (NYSDOH) has developed the Health Provider Network (HPN) as a secure system for electronically collecting and distributing health related data among NYSDOH, health facilities/providers and public health response partners. This system is an integral part of the NYSDOH Public Health Preparedness and Response Plan. The real-time nature of information access and interchange required for effective detection and response to public health events requires Public Health Preparedness and Response (PHPAR) Accounts, Authentication and Systems collectively defined as PHPARS. In order for the organization to utilize these systems, a Security Coordinator must be named and made personally accountable for execution of the security protocols in Schedule 1.B of this document (aka Document 1).

The purpose of this document is to:

- Define the security terms, conditions and responsibilities that Participant Organizations must agree to in order to have their employees or individuals affiliated with their organization access and use the HPN
- Provide for the assignment of HPN Coordinator(s) (HPNC) and define the duties and responsibilities for individual(s) assigned by the organization to act in this role. The HPNC has the ability to manage and monitor many of the organization's interactions with the HPN and the NYSDOH. By definition the Director (head) of the organization will be given this role. However the Organization may assign a number of their trusted employees to this role.
- Provide for the assignment of HPN Organizational Security Coordinator(s) (HPNOSC) and define the duties and responsibilities for individual(s) assigned by the organization to act in this role. The HPNOSC has the ability to manage and monitor PHPARS. The HPNOSC also has the ability to fulfill the role of HPNC for the organization.
- Establish HPN accounts for the Director of the organization and all assigned HPNCs and HPNOSCs.

II. Overall Security

The Participant Organization is responsible for the security of HPN data physically located on, or transported over, its own network. This includes: validation of users who need to access the network, physical security of computers on its network, security of data that is removed from the HPN, and immediate notification of the NYSDOH when the status of the authorized individual user changes due to reassignment of duties, or

change of employment. Send e-mail to nysdoh-commerce-help@health.state.ny.us or call [1-866-529-1890](tel:1-866-529-1890) to report status changes to NYSDOH.

III. Data Disclosure

Employees/agents of the Participant Organizations who have obtained information from the HPN shall not disclose this information to any other person unless that person is legally authorized to obtain and has official reason to see that information. Unauthorized disclosure may be a violation of law and subject the participant organization, its employees and/or its agents to fines, imprisonment or suspension or revocation of a professional license.

IV. Responsibility

The Participant Organization's employees/agents requiring access to the HPN will be given an HPN Individual User Security and Use Policy and Application (aka Document 2). The Participant Organization agrees to the terms of this agreement and Document 2 and their attached schedules and agrees to require its employees, agents, and affiliates to comply with the terms and conditions of this Document 1 and its schedules and Document 2 and its schedules. The Participant Organization will be responsible for the actions of any of its employees/agents with regard to compliance with the HPN policies. It is absolutely forbidden for any employee/agent to share an HPN account or to use an account assigned to another HPN user. Absent an appropriate organizational response to account violations, user account privileges will be deleted upon a first offense.

- propagation of computer worm or viruses
- using the network to make unauthorized entry to other communication devices or resources
- using the network to infringe upon any copyright protections applicable to programs and/or data available on the HPN.
- for personal profit, or gain
- advertising products or services
- for the distribution of Chain letters; or broadcasting messages to lists or individuals; or other types of use that causes congestion or otherwise interfere with the work of others
- for recreational activities
- intentional development of programs that harass and/or damage or alter the software components of a computer or computing system.

The guidelines established with the policy are intended to be illustrative of the range of acceptable and unacceptable uses of the HPN and its facilities and are not exhaustive. Questions about specific uses not set forth in this policy should be directed by e-mail to hinweb@health.state.ny.us. Instances of specific unacceptable uses must be reported by e-mail to security@health.state.ny.us and hinweb@health.state.ny.us immediately.

VI. REASON FOR ACCESS

Users requesting access to the HPN must have a valid and acceptable reason for access. This typically involves a user satisfying a state mandated reporting activity on behalf of the organization, performing health activities such as assurance/surveillance/planning/preparedness/response, or serving a critical role at the organization that is associated with these activities and requires access to data/information as part of that role.

NYSDOH program areas are responsible for controlling access to their applications and data. They will review requests and act on them via their own protocols for access approval. It is therefore understood that granting of access requests to applications and data on the HPN is subject to NYSDOH program area approval and protocols.

VII. DATA DISCLOSURE

Health data/information originating from the HPN is protected under state and federal confidentiality laws as well as NYSDOH policy/procedures. Employees or agents of HPN participant organizations who have acquired knowledge of personal or health data/information from the HPN **shall not disclose this information to any other person**, unless that person is authorized by the NYSDOH program area and has official reason to see that information.

VIII. ENFORCEMENT

Violations of this policy can result in termination of HPN services for the person(s) at fault. Unauthorized use, fraudulent use, unacceptable use, abuse of computing on network facilities, or unauthorized disclosure of information will lead to suspension of the user's account and/or referral for appropriate legal action. Legal consequences may include suspension or revocation of a professional license, fines and/or imprisonment.

DOCUMENT L
**NYSDOH HEALTH PROVIDER NETWORK (HPN)
INDIVIDUAL USER SECURITY AND USE POLICY
AND APPLICATION FOR BASIC ACCESS**

I. INTRODUCTION

The New York State Department of Health (NYSDOH) has developed the Health Provider Network (HPN) as a secure system for electronically collecting and distributing health related data between NYSDOH, health facilities/providers and public health response partners. The Health Alert Network (HAN) has been developed as a secure system, accessed through the HPN, for electronically posting health alerts that could have an effect on citizens in New York State. The purpose of this document is to

- describe the policy that the individual user of the HPN must agree to and the conditions that must be met in order to obtain and retain an HPN account;
- establish a basic HPN account for a new user of the HPN;
- establish an affiliation to the organization of employment, sponsored by the county Local Health Department.

II. ORGANIZATIONAL AND LOCAL HEALTH DEPARTMENT AGREEMENTS

Because your organization has decided not to directly participate in the HPN, it is not registered with NYSDOH. Normally, employees of non-registered organizations cannot obtain access to the HPN. However, because your Local Health Department has agreed to sponsor your organization and be accountable for your employees who receive accounts, the NYSDOH has agreed to allow them to grant those organizations HPN accounts with basic access only. Upon receiving your HPN account, you will be able to view general web pages, update your personal contact information, and possibly receive general health alerts. You will not be able to use any access-controlled applications until your organization registers with NYSDOH and agrees that your account should be expanded to full access.

Establishing and Retaining Account Access.

You are eligible to apply for, receive and use an HPN Individual User account if

- You are employed by an organization that is being sponsored by the Local Health Department (LHD);
- You and your sponsor can justify the need for your access to the HPN;
- The HIN Coordinator designated by the LHD agrees to sponsor you as a user;
- You agree to all the terms and conditions of this Document L including Schedule 1.A;
- You and the HIN coordinator complete and sign Schedule 2.A;
- NYSDOH receives accurate and complete originals of Schedule 2.A.

This process will bind you and the co-signing HIN Coordinator to the policies outlined in this document and establishes your account. A prerequisite to retaining an active HPN account is that NYSDOH must have a valid Document L, Schedule 2.A on file for you

from an established HIN Coordinator. Your account will be deactivated should your need for access, or your employment status with the LHD sponsored organization changes. Your account grants you access to general information on the HPN and HAN only.

III. BINDING EFFECT

By signing this agreement the user indicates he or she understands and agrees to the responsibilities and duties described in this Document L including Schedule 1.A. The user understands and agrees that he/she is bound by this agreement regardless of organization or location from which the HPN is accessed. The user also understands that future modifications to this agreement may be made and that the user's agreement with these changes may be effected electronically on the HPN. The user understands and agrees that he/she will be bound by the electronic agreement.

By signing this agreement the HIN Coordinator understands and agrees on behalf of the sponsored organization that

- the user has a valid affiliation with the Organization and the Coordinator has exercised due diligence in verifying this fact (e.g. checked with the Director of the Organization or user's Department Head);
- the user has valid need to access the HPN for this organization;
- the Organization and the LHD are bound to enforce the terms and conditions of this agreement on behalf of this user;

**DOCUMENT X HEALTH PROVIDER NETWORK
PARTICIPANT ORGANIZATION SECURITY AND USE POLICY FOR
PUBLIC HEALTH PREPAREDNESS AND RESPONSE APPLICATIONS**

I. Introduction

The New York State Department of Health (NYSDOH) has developed the Health Provider Network (HPN) as a secure system for electronically collecting and distributing health related data. This system is an integral part of the NYSDOH Public Health Preparedness and Response (PHPAR) Plan. As part of this plan, NYSDOH has established specialized mechanisms, computer software, and accounts on the HPN to provide for interchange of public health information for rapid detection and response to public health events.

As a prerequisite to participating on the HPN, organizations enter into security and use agreements with the NYSDOH. These delineate organizational responsibilities regarding usage of the HPN by their employees doing business on the HPN on the organization's behalf and the security of data physically located on, or transported over, its network. This includes validation of users who need to access the network, physical security of computers on its network, and security of removable data. Organizations, through their HPN coordinators, also establish organizational affiliations and request/establish HPN accounts for their employees. These accounts are associated with individual users. That is, each HPN user has individual responsibility for his or her account. The real-time nature of information access and interchange required for effective detection and response to public health events requires computer interchange, specialized accounts, and authentication that is more generalized than individual user accounts.

This document is an extension of, and addendum to, the organizational security and use agreement (aka Document 1). The purpose is to:

- Define the nature and intended use of PHPAR related accounts, authentication and data interchange mechanisms
- Define the protocols for security and use, including security terms, conditions and responsibilities that Participant Organizations must agree to in the handling these systems
- Allow the Participant Organization to request one or more specialized HPN accounts for reporting and alerting purposes.

II. Whole agreement

The Participant Organization has entered into a duly notarized HPN security and use agreement with the NYSDOH and continues to be bound by those terms and conditions (aka Document 1). The organization agrees that the subject PHPAR agreement (Document X) and its attached schedules ("X.A" and "X.B") are annexed to and a part of Document 1.

III. Public Health Preparedness and Response (PHPAR) Accounts, Authentication and Systems

Public Health Preparedness and Response (PHPAR) Accounts, Authentication and Systems will be collectively defined as PHPARS. The nature, intended use and security protocols for these PHPARS are described in Schedule "X.A" of this document.

IV. Responsibility

The Participant Organization is responsible for ensuring the security, appropriate and intended use of, and execution of the security protocols for PHPARS described in Schedule "X.A". The Director (head of the organization) is given the role of Organizational Security Coordinator (OSC) by default when enrolling the organization on the HPN. The Director may also designate one or more OSC(s) who will be personally accountable for execution of the security protocols in Schedule "X.A" for the organizational security agreement as delineated in Document 1. The organization will be held responsible for actions of the OSC(s) that are in remiss of these security protocols, any unauthorized access or usage of PHPARS and any actions of its employees/agents not in compliance with the HPN policies and protocols as stated.

**New York State Department of Health
Health Provider Network
Individual NYS Licensed Practitioner Security & Use Policy**

This document describes security terms, conditions and responsibilities that NYS licensed practitioners, hereafter referred to as Practitioners, must agree to in order to become a user of the HPN. This document supersedes all previous versions.

I. Introduction

The New York State Department of Health, hereafter referred to as the Department, has developed the Health Provider Network (HPN) as a secure website allowing for exchange of non-public information between Practitioners and the Department. Practitioners may use the HPN for the following:

- Collecting and distributing health related data
- Participating in the Departments Public Health Preparedness and Response Plan
- Volunteering in case of Public Health Crisis

II. Overall Security

Practitioners are responsible for the security of HPN data physically located on, or transported over their own networks. This includes validation of users accessing their network (for example, by requiring that all users employ personal passwords), physical security of computers on their network, and security of data that is removed from the HPN (for example, copied onto disks or laptops).

III. Binding Effect

By signing a Practitioner account request form the Practitioner understands and agrees that he/she is bound by this agreement regardless of organization or location from which the HPN is accessed. The Practitioner also understands and agrees that future modifications to this agreement may be made and that the Practitioner's agreement with these changes may be effected electronically on the HPN.

The Practitioner understands and agrees that he/she will be bound by the electronic agreement. The Practitioner understands and agrees to comply with the following responsibilities and duties of the security and use policy:

- Adhere to the terms and conditions of this agreement in its entirety regardless of the location from which the user accesses the HPN
- Assure the PIN number and password of the HPN account are kept confidential in a secure place and are not shared with anyone
- Update electronically the contact information recorded in the NYSDOH Communications Directory when necessary so that it is accurate at all times
- Maintain the confidentiality of all data and information accessed on the HPN
- Access only that information on the HPN for which the Practitioner has been duly authorized
- Report any indications of fraudulent use, including being asked to use another's account to gain access to information not specifically authorized to yourself or by witnessing such an action from another user

Key Preparedness and Response Jurisdictions, Agencies with Access to Health Commerce System and their Demographics and Usage

Federal Government	
Centers For Disease Control and Prevention	
Center for Disease Control and Prevention -- Maine	
Federal Emergency Management Agency (FEMA)	
Health Care Financing Administration	
National Park Service	
US Department of Health & Human Services - Region 2	
USDA - APHIS Wildlife Services	
Non-NYS, US Health Services Jurisdictions	
Connecticut Department of Health	
Minnesota Department of Health	
New Jersey Department of Health	
Tennessee Department of Health	
Virgin Island Department of Health	
Canadian Health Services Organizations	
Niagara Region Public Health Department	
Ontario Ministry of Health and Long-Term Care	
American Indian Nations	County
Oneida Indian Nation	Oneida
Onondaga Indian Nation	Onondaga
Seneca Nation of Indians	Cattaraugus
Seneca Nation of Indians Environmental Protection Dept	Seneca
Shinnecock Indian Nation	Suffolk
St Regis Mohawk Tribe	Franklin
Tonawanda Seneca Indian Nation	Erie
Tuscarora Indian Nation	Niagara

Unkechaug Indian Nation; Unkechaug Indian Nation Health Services	Suffolk
County Emergency Volunteer Organizations	
Albany County Emergency Volunteer System	Albany
Clinton County Emergency Volunteer System	Clinton
Dutchess County Medical Reserve Corps.	Dutchess
Erie County Medical Reserve Corps	Erie
County Emergency Volunteer Organizations (cont'd)	County
Monroe County Medical Reserve Corps (MRC)	Monroe
POD Volunteer - Tioga County DOH	Tioga
Steuben County Emergency Volunteers	Steuben
Westchester Emergency Volunteer Reserves-MRC	Westchester
Yates County Emergency Volunteers	Yates
County Agencies	
Broome County Government Security Division	Broome
Cortland County Board of Health	Cortland
Cortland County Local Public Health Emergency Planning Group	Cortland
County of Erie Department of Law	Erie
County of Suffolk Risk Management	Suffolk
Rockland County - Department of Planning	Rockland
Town of New Hartford	Oneida
County and City Emergency Services Organizations	
<u>Albany County Sheriff's Department</u>	Albany
<u>Auburn Police Department</u>	Cayuga
<u>Broome County Office of Emergency Services</u>	Broome
<u>Broome County Sheriff's Office</u>	Broome
<u>Chautauqua County Chapter American Red Cross</u>	Chautauqua
<u>Chautauqua County Office of Emergency Services</u>	Chautauqua
<u>Chautauqua County Sheriff's Office</u>	Chautauqua

<u>City of Binghamton Fire Department</u>	Broome
<u>City of Middletown Police Department</u>	Orange
<u>Columbia County EMS Coordinators Office</u>	Columbia
<u>Columbia County Emergency Management Office</u>	Columbia
<u>Columbia County Fire Coordinators Office</u>	Columbia
<u>Columbia County Sheriff's Office</u>	Columbia
<u>Cortland County Fire & Emergency Management</u>	Cortland
<u>Delaware County Department of Emergency Services</u>	Delaware
<u>Dutchess County Emergency Response</u>	Dutchess
<u>FDNY - EMS Command</u>	Kings
<u>Franklin County Emergency Services</u>	Franklin
<u>Greene County Emergency Services</u>	Greene
<u>Maybrook Police Department</u>	Orange
<u>Monroe Police Department</u>	Orange
County and City Emergency Services Organizations (cont'd)	County
<u>Nassau County Emergency Management Office</u>	Nassau
<u>Nassau County Fire Commission</u>	Nassau
<u>New York City Office of Emergency Management</u>	Kings
<u>Ontario County Emergency Management Office</u>	Ontario
<u>Ontario County Sheriff</u>	Ontario
<u>Otsego County Office of Emergency Services</u>	Otsego
<u>Port Jervis Police Department</u>	Orange
<u>Rockland County Office of Fire and Emergency Services</u>	Rockland
<u>Rosendale Police Department</u>	Ulster
<u>Saratoga County Emergency Management Service</u>	Saratoga
<u>Steuben County Sheriff's Office</u>	Steuben
<u>Sullivan County E-911 Center</u>	Sullivan
<u>Tioga County Sheriff's Office</u>	Tioga
<u>Town of New Windsor Police Department</u>	Orange
<u>Town of Tuxedo Police Department</u>	Orange
<u>WCA Services Corporation</u>	Chautauqua
<u>Yates County Sheriff's Office</u>	Yates

Healthcare Associations	
<u>Community Health Care Association of New York State (CHCANYS)</u>	New York
<u>Empire State Association of Assisted Living</u>	Saratoga
<u>Genesee Health Facilities Association, Inc</u>	Monroe
<u>Greater New York Health Care Facilities Association</u>	New York
<u>Greater New York Hospital Association</u>	New York
<u>Healthcare Association of New York State</u>	Rensselaer
<u>Home Care Association of New York State, Inc.</u>	Albany
<u>Hospice and Palliative Care Association of NYS</u>	Albany
<u>Hospital Executive Council</u>	Not NYS
<u>Hudson Headwaters Health Network</u>	Warren
<u>Iroquois Healthcare Association</u>	Saratoga
<u>Metropolitan Jewish Health System</u>	Kings
<u>NYS Association Of County Health Officials</u>	Albany
<u>Nassau - Suffolk Hospital Council</u>	Suffolk
<u>New York Association of Homes and Services for the Aging</u>	Albany
<u>New York Chapter of American College of Physicians</u>	Albany
<u>New York Coalition For Quality Assisted Living (NYCQAL)</u>	Albany
<u>New York Healthcare Alliance & Southern New York</u>	New York
Healthcare Associations (cont'd)	County
<u>New York State Association of Health Care Providers</u>	Rensselaer
<u>New York State Health Facilities Association</u>	Albany
<u>New York State Nurses Association</u>	Albany
<u>New York- Assisted Living Federation of America</u>	Albany
<u>Northern Metropolitan Hospital Association</u>	Orange
<u>Rochester Regional Healthcare Association</u>	Monroe
Other NYS Agencies	County
<u>Department of Civil Service Employee Health Service</u>	Albany
<u>NYS Attorney General - Medicaid Fraud Control Unit</u>	New York

NYS Board of Elections	Albany
NYS Commission of Correction	Albany
NYS Commission on Quality of Care & Advocacy for Persons w/Disabilities	Schenectady
NYS Department of Agriculture and Markets	Albany
NYS Department of Corrections Health Services	Albany
NYS Department of Environmental Conservation	Albany
NYS Department of Family Assistance - OCFS	Rensselaer
NYS Department of Family Assistance - OTDA	Albany
NYS Department of State	Albany
NYS Emergency Management Office (SEMO)	Albany
NYS Emergency Management Office (SEMO) Region V	Ontario
NYS Insurance Department	Albany
NYS National Guard	Albany
NYS Office for the Aging	Albany
NYS Office of Alcoholism and Substance Abuse Services	Albany
NYS Office of Children & Family Services, Bureau of Health Services	Rensselaer
NYS Office of Cyber Security & Critical Infrastructure Coordination	Albany
NYS Office of Homeland Security	Albany
NYS Office of Mental Health	Albany
NYS Office of Temporary and Disability Assistance	Albany
New York State Police - Troop A, Zone 3	Chautauqua
New York State Police - Troop F	Orange
NYS Workers' Compensation Board	Albany
Office of Children & Family Services - Adirondack RC	Clinton
Office of Children & Family Services - Adirondack WC	Clinton
Other NYS Agencies (cont'd)	County
Office of Children & Family Services - Allen RC	Delaware
Office of Children & Family Services - Annsville RC	Oneida

<u>Office of Children & Family Services - Auburn RC</u>	Cayuga
<u>Office of Children & Family Services - Brace RC</u>	Delaware
<u>Office of Children & Family Services - Brentwood RC</u>	Suffolk
<u>Office of Children & Family Services - Bronx RC</u>	Bronx
<u>Office of Children & Family Services - Brooklyn RC</u>	Kings
<u>Office of Children & Family Services - Brookwood SC</u>	Columbia
<u>Office of Children & Family Services - Cattaraugus RC</u>	Cattaraugus
<u>Office of Children & Family Services - Goshen SC</u>	Orange
<u>Office of Children & Family Services - Gossett RC</u>	Cayuga
<u>Office of Children & Family Services - Great Valley RC</u>	Cattaraugus
<u>Office of Children & Family Services - Highland RC</u>	Ulster
<u>Office of Children & Family Services - Industry Limited & Secure</u>	Monroe
<u>Office of Children & Family Services - Lansing RC</u>	Cayuga
<u>Office of Children & Family Services - MacCormick SC</u>	Tioga
<u>Office of Children & Family Services - McQueen RC</u>	Kings
<u>Office of Children & Family Services - Middletown RC</u>	Orange
<u>Office of Children & Family Services - Pyramid Reception</u>	Bronx
<u>Office of Children & Family Services - Red Hook RC</u>	Columbia
<u>Office of Children & Family Services - Staten Island RC</u>	Richmond
<u>Office of Children & Family Services - Taberg RC</u>	Oneida
<u>Office of Children & Family Services - Tryon RC</u>	Fulton
<u>Office of Children & Family Services - Tryon School (Girls)</u>	Fulton
<u>Office of Children & Family Services - Tubman RC</u>	Cayuga
<u>Office of Children & Family Services - Youth Leadership Academy</u>	Delaware
<u>Office of Mental Retardation and Developmental Disabilities</u>	Albany
<u>Office of the State Comptroller</u>	Albany
<u>Office of the State Deputy Comptroller</u>	New York
Health Services Agencies	County
<u>Central New York HSA</u>	Onondaga

<u>Finger Lakes HSA</u>	Monroe
<u>Hudson Valley HSA</u>	Orange
<u>NY-Penn HSA</u>	Broome
<u>Nassau-Suffolk HSA</u>	Nassau
Health Services Agencies (cont'd)	County
<u>New York City HSA</u>	New York
<u>Northeastern NY HSA</u>	Albany
<u>Western NY HSA</u>	Erie

Table 2. New York State Health Commerce System Demographics and Usage as of 01/07

Organization	Number	Organization	Number
Local Health Departments and New York City Department of Health and Mental Hygiene	58	Diagnostic & Treatment Clinic	702
Regional Health Office	4	Medical Office Practice	2101
Hospital	239	Managed Care Organization	70
Clinical and Environmental Laboratory	1844	Pharmacy	1507
Nursing Home – Long Term, and Adult Day Health, Care Programs	727	Home Health, Personal and Adult Care Facilities	2076
Individual Licensed Practitioners			
Medical Doctor	14564	Dentist	2164
Nurse Practitioner	1965	Veterinarian	796
Physician Assistant	1278	Other Practitioner Types	2134
Overall Summary Usage and Demographics			
59,206 User Accounts		6,800 User Logins per day	
25,292 Organizations		314,000 access hits per day	
28,208 Automated Data Transfer Accounts		197 Health Information Exchange Applications	

CDEX Dashboard Situational Awareness and Public Health Preparedness Executive Dashboard

CDEX **CDEX**

Western Region Communicable Disease Exercises (CDEX)

- CDEX Exercise Objectives
- Rules of Play
- Comments/Problems
- Sponsoring Agencies
- Participating Agencies
- Timeline
- Timeline Archive
- What is CDEX?

Update for Day 19

Management command structures to include the Province of Ontario.

- Hospitals in the Western New York established their EOCs. (8 County Area)
- County EOCs are activated in Western New York. (8 County Area)
- Today's activities conclude the activities for the Western New York Communicable Disease Exercise (CDEX).
- Thank you to all who participated for all of their efforts in helping New York become better prepared to respond to emergency incidents.

- [Data Playbooks/Information Injects](#)
- [Instructions/Resources](#)
- [CDEX Reporting](#)
- [Health Notifications Viewer](#)
- [Executive Dashboard](#)

NEW YORK STATE DEPARTMENT OF HEALTH - HEALTH ALERT NETWORK - PUBLIC HEALTH PREPAREDNESS EXECUTIVE DASHBOARD

EVENT HOME PAGE

Contacts
Data Systems
Discussion Forums
HAN Notifications
Protocols, Procedures, Plans
Resources

Preparedness Event: Communicable Disease Exercise (CDEX) **Counties Affected:** Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming

Region Affected: Western Region

Event Status: Time Line

Event Time Frame: May-June 2006

Analysis Visualization and Reporting

Hospital Flu Admissions:

Event Patients needing ICU and Vents:

Hospital Antiviral Needs:

Flu Death Totals:

Hospital Bed Utilization:

Hospital Ventilator Needs:

Select images at left to view

←

Reports:

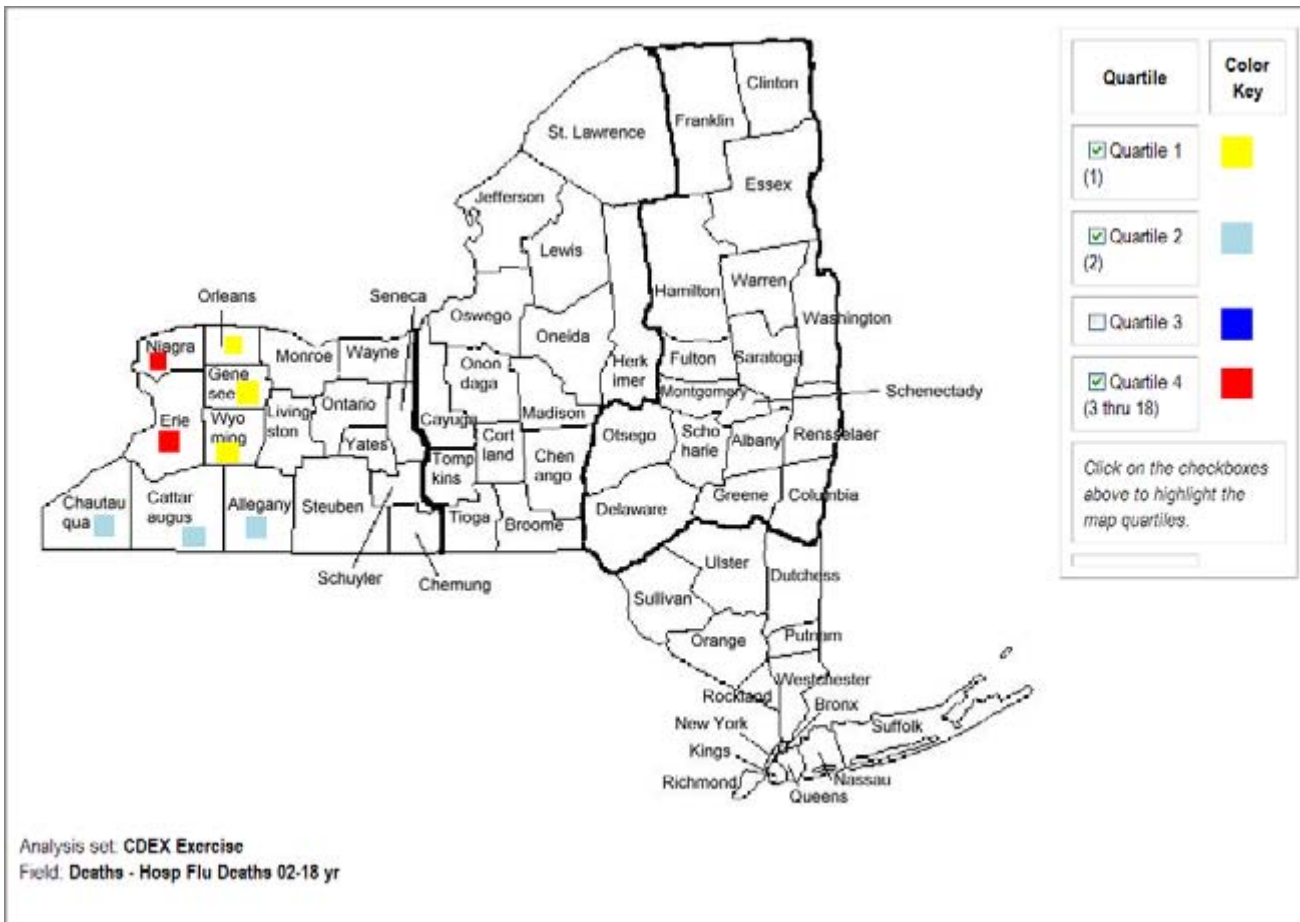
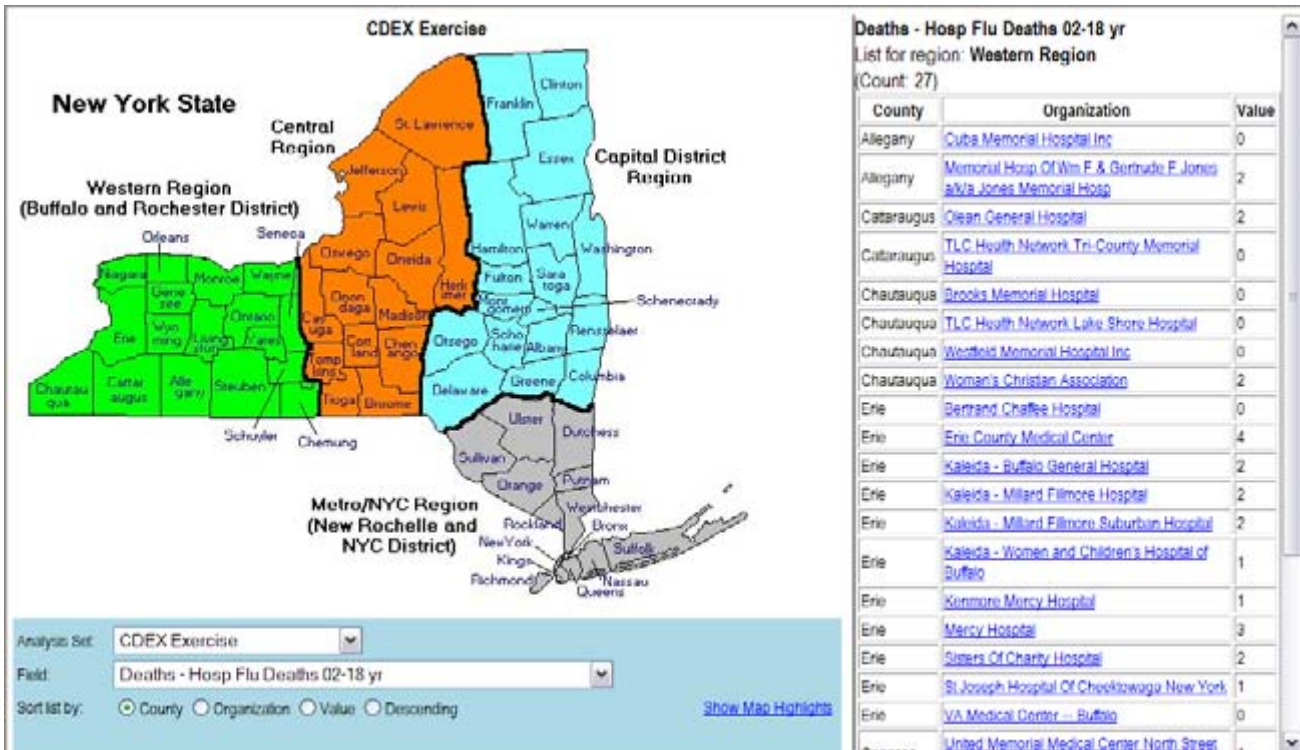
- Map-based Queries
- Event Related Data
- Facility Critical Assets

Comments/questions:
westcdex@health.state.ny.us

HAN Home Page
HAN Home Page
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2008

1



Home
Contacts
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Preparedness Event: Communicable Disease Exercise (CDEX)

Region Affected: Western Region

Event Status: Time Line


Event Time Frame: May-June 2006

Counties Affected: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming



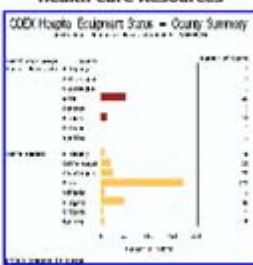
Reports - CDEX Event Related Data

Epidemiology

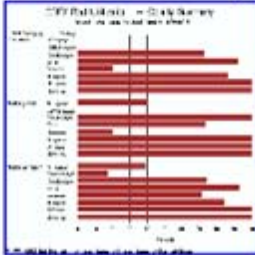


Health Care Resources

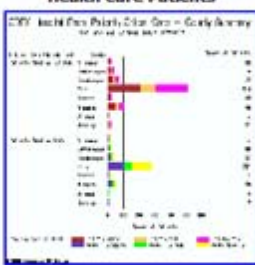
CDEX Hospital Equipment Status - County Summary



Health Care Bed Availability



Health Care Patients



Select images at left to view

CDEX Event Data Visualization:

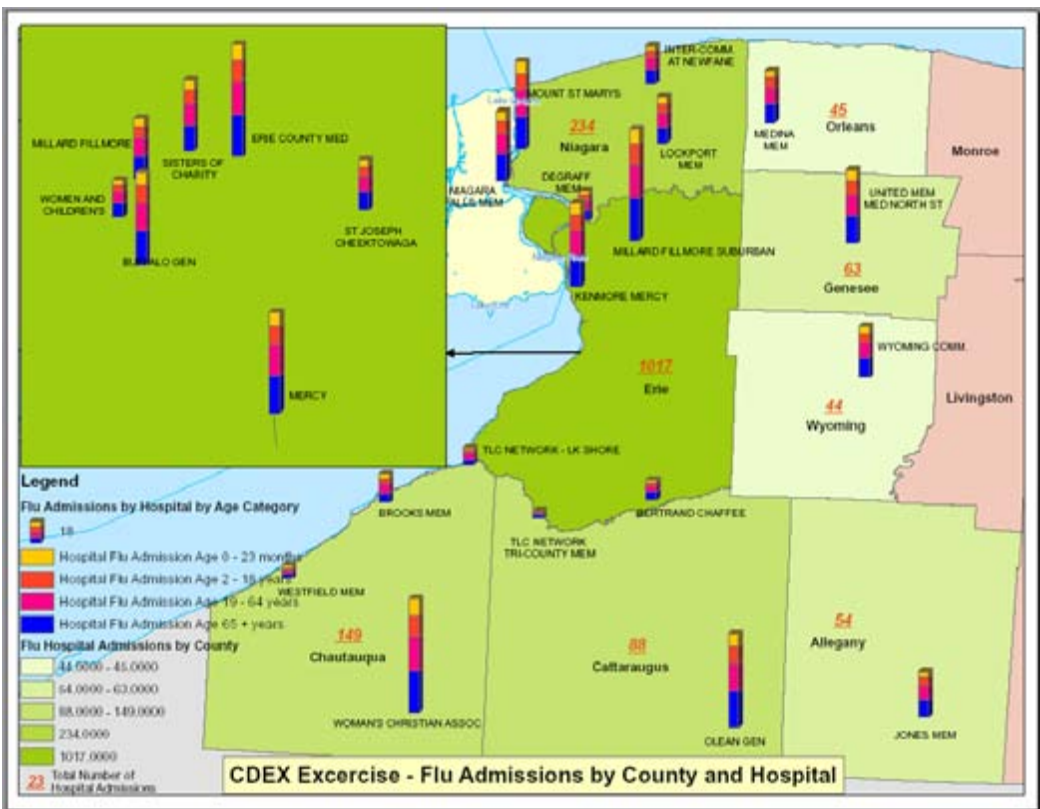
- [Epidemiology](#)
- [Health Care Bed Availability](#)
- [Health Care Resources](#)
- [Health Care Patients](#)

Map Based Queries:

- [Query Analysis Sets](#)
- [HERDS GIS System](#)

Comments/questions: westcdex@health.state.ny.us

HPN Home Page
HAN Home Page
HIN Home Page



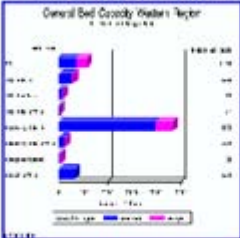
NEW YORK STATE DEPARTMENT OF HEALTH - HEALTH ALERT NETWORK - PUBLIC HEALTH PREPAREDNESS EXECUTIVE DASHBOARD

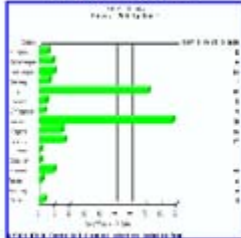
Home | Contacts | Data Systems | Discussion Forum | HAN Notifications | Protocols, Procedures, Plans | Resources


Preparedness Event: Communicable Disease Exercise (CDEX) | Counties Affected: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming
 Region Affected: Western Region | Event Status: Time Line
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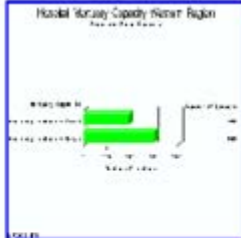
Reports - Facility Critical Assets

Select images at left to view

General Hospital Bed Capacity:


AIR Bed Capacity:


Hospital Vents and Cardiac Monitor Capacity:


Mortuary Capacity:


HERDS Critical Assets Resource Visualization:

- Hospital Assets - Bed Capacity
- Hospital Assets - Equipment
- Hospital Assets - Mortuary
- Hospital Assets - PPE

Map Based Queries:

- Query Analysis Sets
- HERDS GIS System

Comments/questions: westcdex@health.state.ny.us

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NEW YORK STATE DEPARTMENT OF HEALTH - HEALTH ALERT NETWORK - PUBLIC HEALTH PREPAREDNESS EXECUTIVE DASHBOARD

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Preparedness Event: Communicable Disease Exercise (CDEX) | Counties Affected: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming
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HAN Notifications

- [VIEW NOTIFICATIONS](#)
 - Read about the [Notification Viewer](#)
- [SEND NOTIFICATIONS](#) *Access Restricted*

HPN Home Page | HAN Home Page | HAN Home Page

CROSS-JURISDICTIONAL CONTACT DIRECTORY

US Federal Government
Health Services Jurisdictions
American Indian Nations
Other NYS Agencies

ROLE NAMES	NYS STATE HEALTH DEPARTMENTS		PROVINCIAL DOH		NYS LOCAL HEALTH DEPARTMENTS								
View NYS DOH Communications Directory Role Equivalents	New York State DOH	NYS DOH WRO	Ontario	Niagara Region Public Health Department	Allegany	Cattaraugus	Chautaugua	Erie	Genesee	Livingston	Niagara	Orleans	Wyoming
Public Information Officer	Kristina Smith	Rafael Acosta				Kathleen Ellis							
Department of Health Commissioner	Brian Wina	Robert Furlani William Hooiland Sheila Kee			Loreen Ballance	Barbara Hastings	Robert Berks	Gregory Skibitsky Michael Kubik Anthony Blittler Scott Zimmerman James Woodruff	Randolph Garney	Joan Eileen	Dan Stapleton	Paul Patta	Cathleen Murdie Gregory Collins Laura Paolucci
Public Health Emergency Preparedness Director	Michael Primeau Robert Burhans	Robert Furlani William Hooiland Sheila Kee			Thomas Hull Michael Bechell Michelle Cardo	Michael Bechell Kathleen Ellis	Patricia Appelbe Melissa Lyon Norma Cummings	Gregory Skibitsky Tracy Ericano Chalmers Thomas Hanover	Douglas Vanslyke	Joan Eileen	Elaine Roman	Margaret Wiley	Frank Hollister
Emergency Management Coordinator	Michael Primeau William Bulford												
Emergency Operations Center Coordinator	Michael Primeau William Bulford												
BioTerrorism Coordinator	Robert Burhans	Ann Sullivan-Frohn Gregory Youngs			Loreen Ballance Thomas Hull Michael Bechell	Barbara Hastings Tracy Ericano Chalmers	Patricia Appelbe	Mary Walavander Jack Schwartz Leon Nadler Gale Burstein Heather Lindstrom	Ginny Sellan Randolph Garney Gary Mella Douglas Vanslyke	Mary Stallone John Benitez	Elaine Roman Bon Gwozdek Ann Sullivan-Frohn BSE Ann O'Byrne	Beverly Parmale Cheryl Mills Deborah Restivo Connie Farris Margaret Wiley Nancy Kelly Shannon Sauer	Cathleen Murdie Rebecca DeMuth Gregory Collins Laura Paolucci Frank Hollister
Communicable/Infectious Disease Coordinator	Barbara Wallace	Jeremiah Casey Robert Furlani			Thomas Hull	Susan Andrews Mary Power	Patricia Appelbe Amy Johnson	Mary Walavander Jack Schwartz Gale Burstein Heather Lindstrom	Ginny Sellan	Mary Stallone	Kathleen Cavagnaro Wanda Smiley Ann O'Byrne	Beverly Parmale Cheryl Mills Deborah Restivo Connie Farris	Cathleen Murdie Rebecca DeMuth Mary Eckstein
Health Alert and Communication Coordinator	Debra Sottolano	Joseph Indelicato			Teresa Ciavopoli Michael Bechell	Karen Bryant	Patricia Appelbe Melissa Lyon	John Adolf Mary Walavander	Karen Smykowski	Jim Peraino Kathleen	Elaine Roman Holly D'Anzelo Jayne Ferguson	Michelle Troup Todd Sheryn	Cathleen Murdie Gregory Collins Laura Paolucci

HERDS GIS: Hospital Admissions Lab Confirmed Positive Influenza

The screenshot displays the HERDS GIS interface. On the left, a legend titled 'Herds Query' shows a tree view of layers including 'HERDS Map Layers', 'Public Health', 'Hospitals', 'Incidents', and 'Nursing Homes'. The main map area shows a map of New York State with various counties labeled, including Jefferson, Lewis, Hamilton, Warren, Herkimer, Oneida, Albany, and Schoharie. A search bar at the top right contains the text 'Quick Find'. Below the map, a data table is displayed, showing hospital admissions for lab-confirmed positive influenza. The table has columns for NAME, COUNTY, CAPACITY, PHONE, and four categories of flu admissions: 0-23 Months, 19-64 Years, 2-18 Years, and 65 and older. The table lists four hospitals: St. Lukes of Newburgh, Bassett of Schoharie County, Samaritan Med Ctr., and Summit Park - Rockland Infirmary.

NAME	COUNTY	CAPACITY	PHONE	Flu Admissions 0-23 Months	Flu Admissions 19-64 Years	Flu Admissions 2-18 Years	Flu Admis. 65 and older
ST LUKES OF NEWBURGH	ORANGE	242.0	845-561-44	0	0	1	0
BASSETT OF SCHOHARIE COUNTY	SCHOHARIE	40.0	510-254-34	0	0	0	3
SAMARITAN MED CTR.	JEFFERSON	287.0	315-785-40	1	0	1	0
SUMMIT PARK - ROCKLAND INFIRMARY	ROCKLAND	108.0	845-364-29	0	2	0	2

HERDS GIS: Surge: AIIR and ED

RDS Results - Microsoft Internet Explorer

ds Query Results

FAC_ID	OBJECTID	NAME	COUNTY	CAPACITY	ED Rooms Airborne	EB Surge Beds
324	185	UNIV OF BROOKLYN	KINGS	376.0	2	0
332	171	BROOKDALE MED CTR.	KINGS	530.0	6	10
336	190	CABRINI MED CTR.	NEW YORK	474.0	2	0

Local intranet

Output Utilities

Quick Find

NEW JERSEY

NEW YORK

WESTCHESTER

IRONGTON

Glen Cove

Port Washington

New York City Metro Area

REICHMOND

Critical Asset Survey

NASSAU

Done

Local intranet

Start

New York De...

Microsoft Pow...

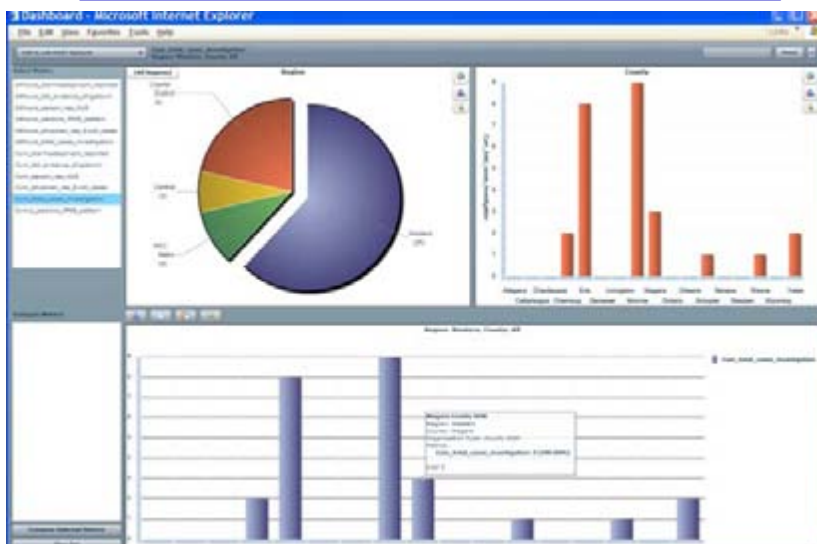
Query HERDS...

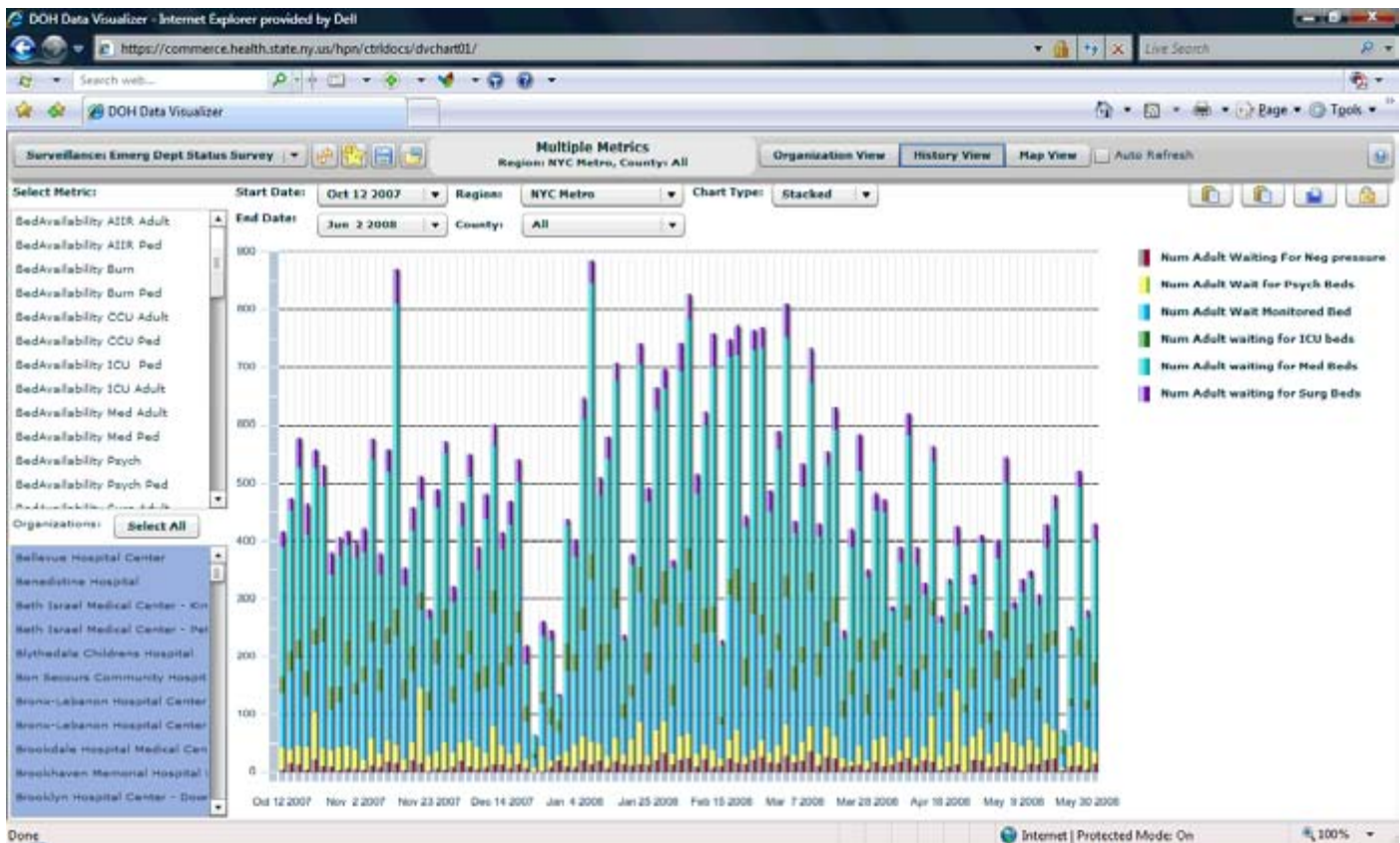
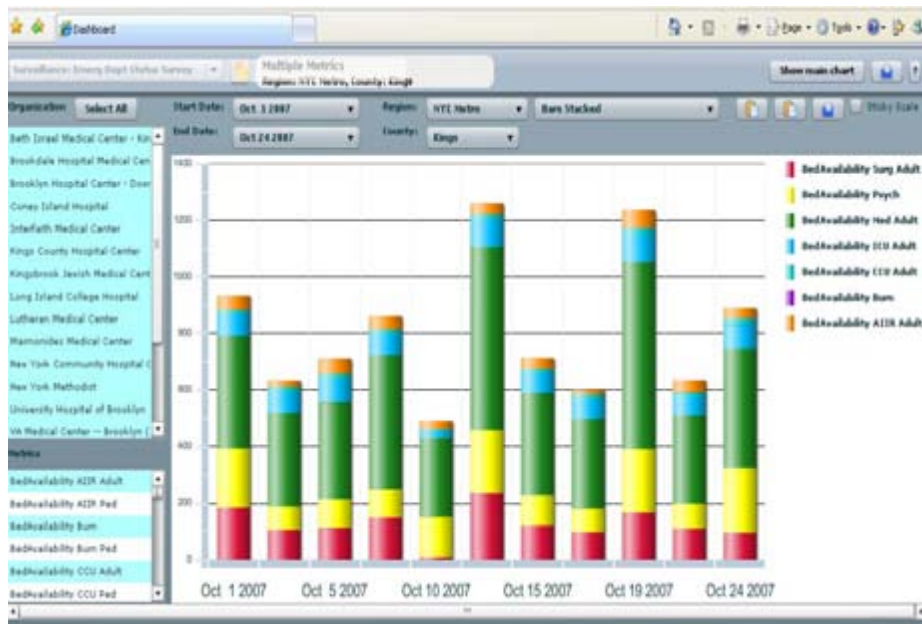
Health Emerge...

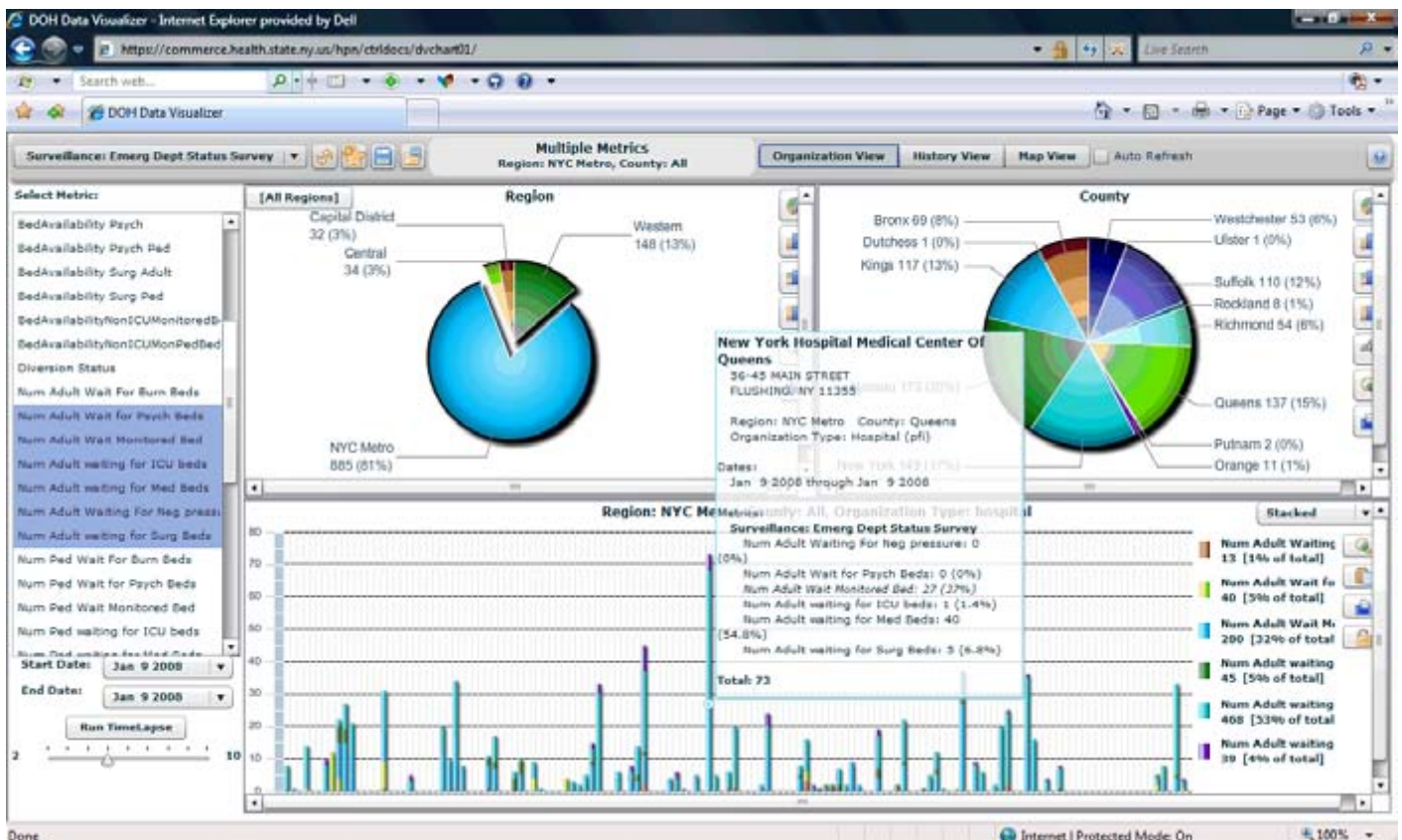
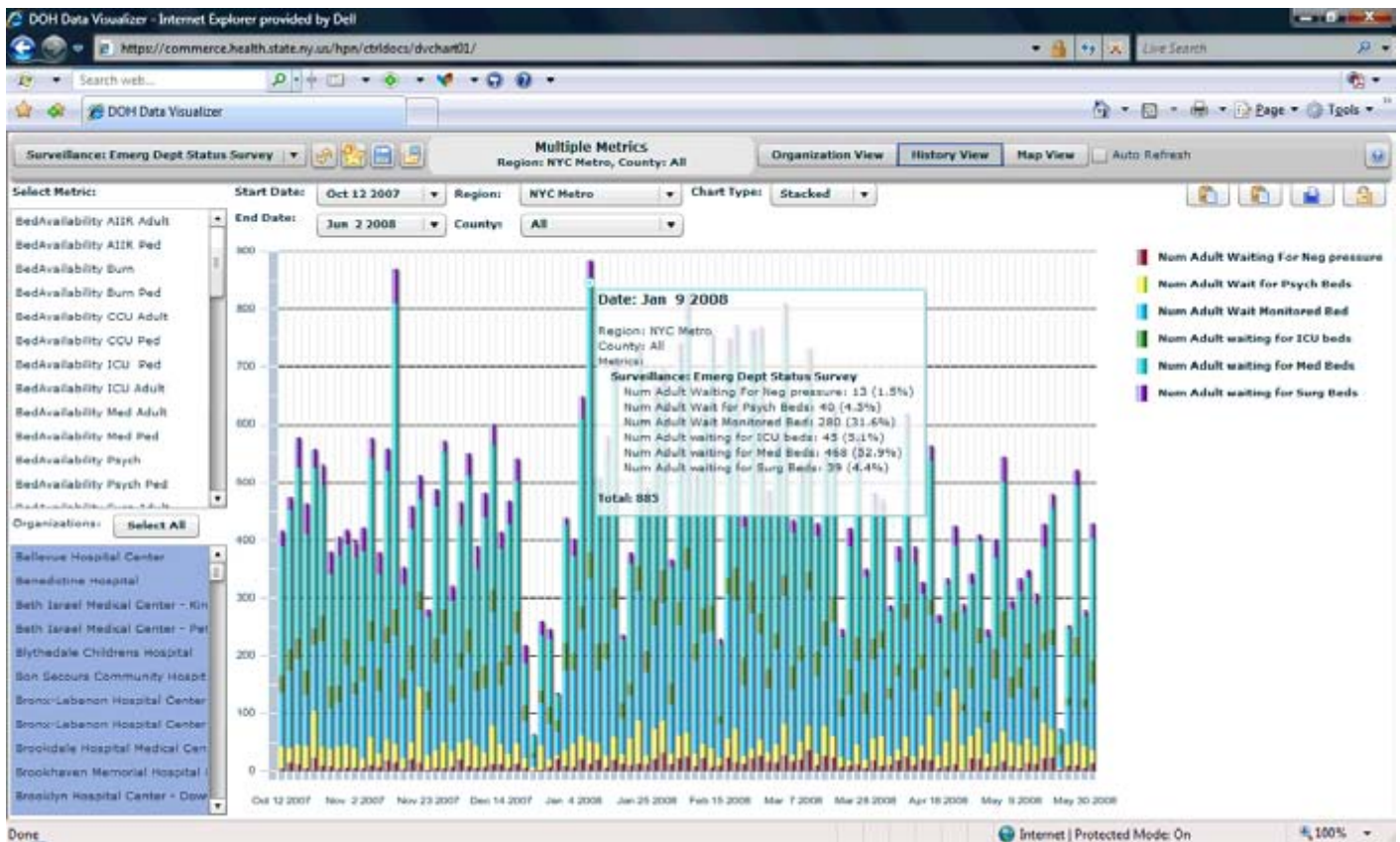
HERDS Resu...

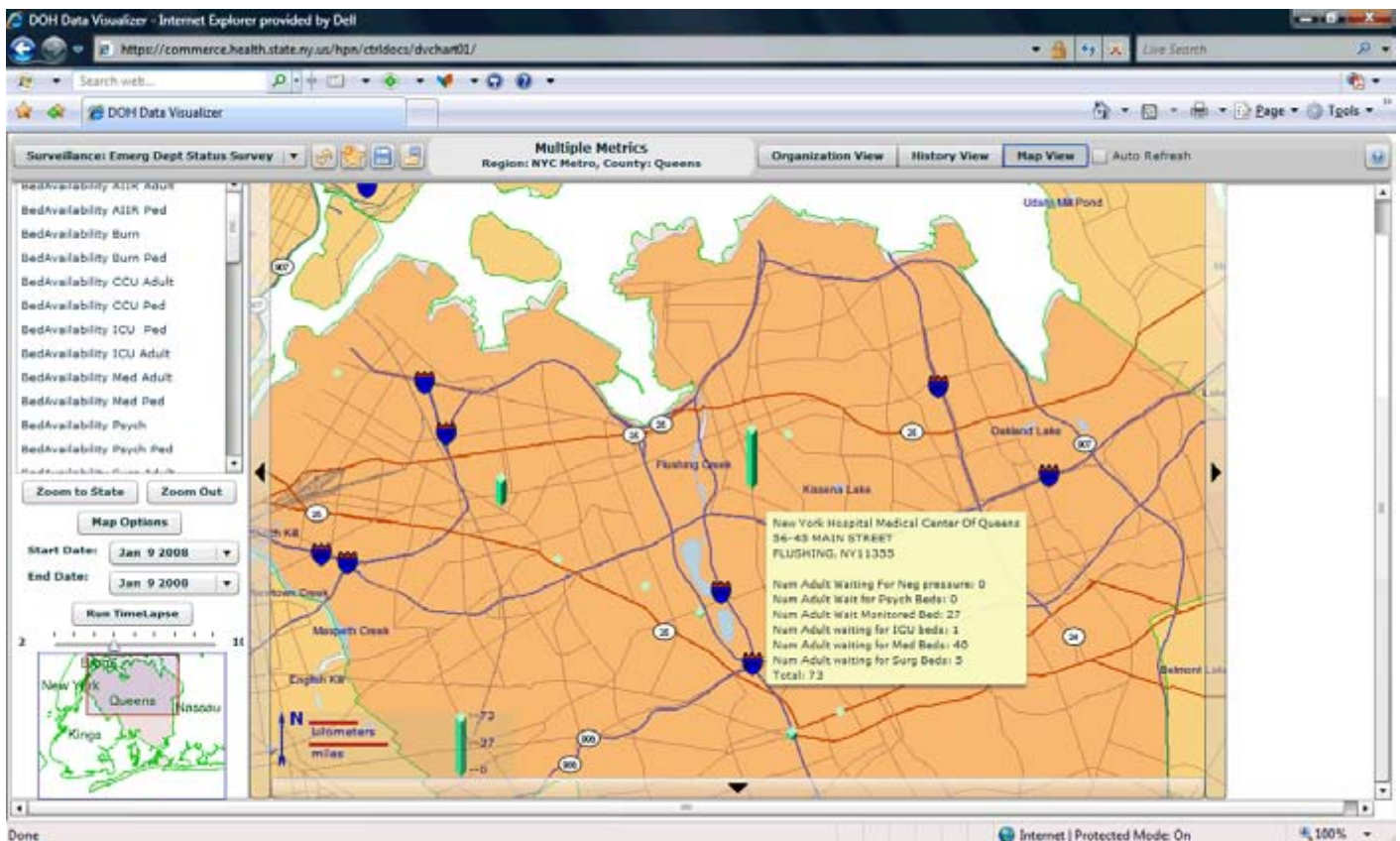
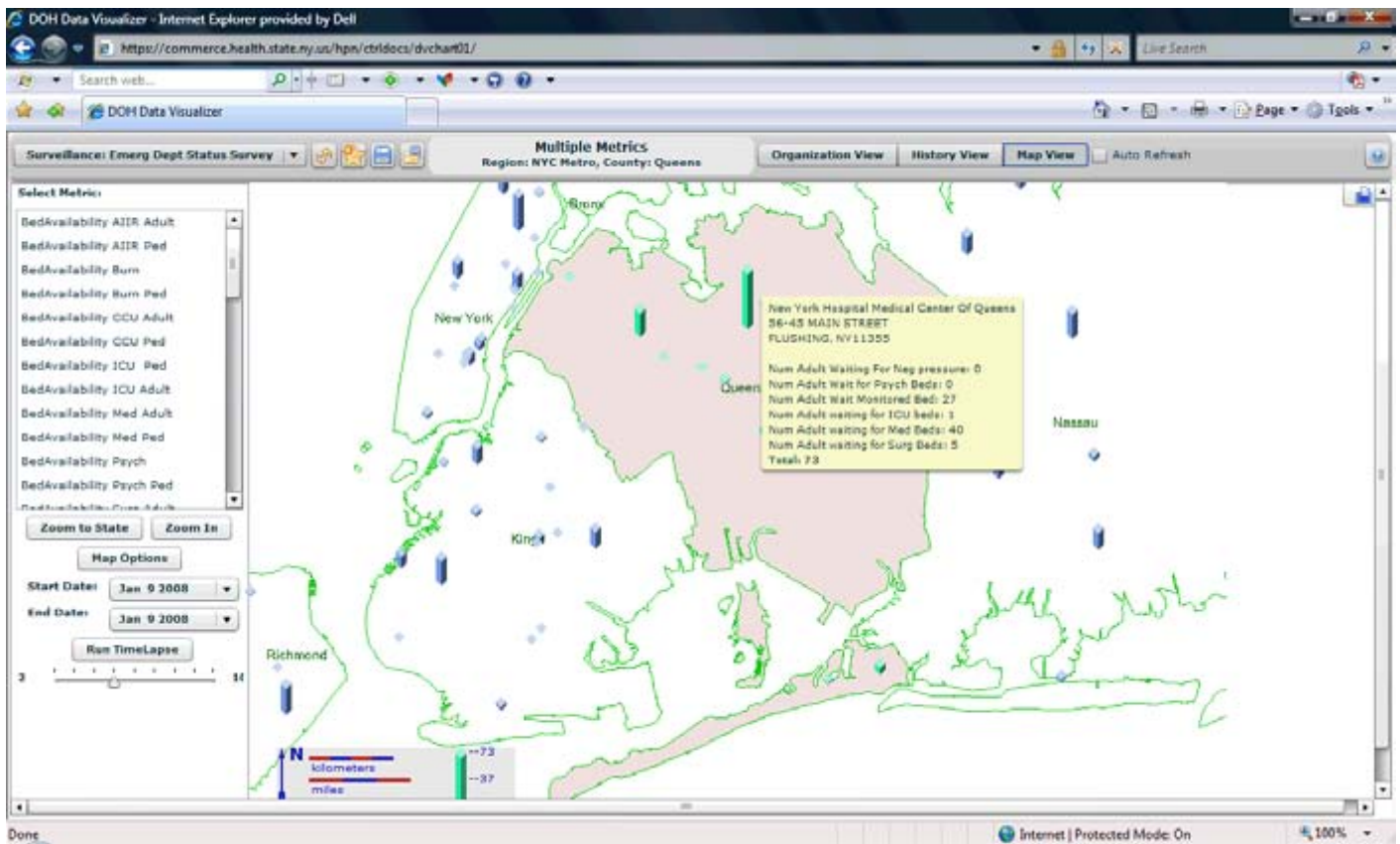
9:40 AM

Local Health Dept Outbreak Tracking – E. Coli Outbreak









**The NYSDOH Notification System: Business Rules for Local Health Departments,
Hospitals, NYSACHO, and other IHANS Partner Organizations**

The purpose of the NYSDOH Notification System is to provide Agencies with a capacity for exchanging routine and emergency communications with our partners in public health and healthcare preparedness and response, that is:

- Integrated and comprehensive
- Accurate and immediate
- In alignment with the grant requirements of CDC and work being done by other States and major cities across the nation.

NYSDOH has a single, NYSDOH enterprise-wide notification system developed under the CDC Public Health Preparedness grant. The integrated notification system is a powerful application that will utilize contact information stored within the HIN/HPN/HAN communications directory to send critical health alerts and advisories to key individuals in roles or key office locations during emergency situations.

NYSDOH will use this system to notify Local Health Departments (LHDs), hospitals, other healthcare providers and emergency response organizations of healthcare alerts, advisories and updating information. NYSDOH will always inform the LHDs which other provider organizations and emergency response organizations have also received a given notification.

The notification system also integrates with all NYSDOH applications such as HERDS that generate automated alerts to users. It also provides a simple user interface to generate manual alerts.

Overview:

- Currently: The notification system permits different level of notification depending on the urgency of the message. For the most urgent alerts, the system will be programmed to attempt to contact these key individuals by multiple means defined in the Person's Emergency Contact Information, with the intelligence to know if an answering machine, busy or no answer has been reached. The system has the ability to track the progress of a phone alert/advisory and record the number of positive contacts it has made during the course of the alert and provide a confirmation report for the sender. The system can generate both text and voice messages that may easily be created by the sender. Details of the incident will not be contained in the notification message.
- Attachments to Emails sent by NYSDOH users only (not available for faxes at this time) are allowed for Informational level messages only, for which the context is not considered highly secure or sensitive.
- The system also has the capability of posting the notification messages on the HAN homepage. Postings may be made public or for targeted audience. Public postings are viewable by the entire Commerce system audience, whereas target audience postings are only viewable by the recipients of the notification. Notifications sent by LHDs (and in the future, hospitals, other healthcare providers and other emergency responders) may

only be posted as targeted, i.e., they will only be visible on the HAN viewer of postings to the recipient audience they originally targeted for the emergency notification, i.e., they are private notifications. NYSDOH executive staff members at the regional and central offices are automatically notified of notifications sent by LHDs in order to review them in a timely way and take requisite action, e.g., notify the a larger segment of the public health, healthcare, or emergency responder communities. NYSDOH users are able to post a notification for “public” or targeted audience views, based on need.

- A Commerce system user, or their HPN/HIN Coordinators may enter and prioritize that individual’s Emergency and business hours contact information in the Communications Directory by using the Directory’s Person’s Update Tool. This priority contact information will be used in transmitting Alert, High Advisories or Drill level messages only.
- The system has the ability to track the progress of a given alert/advisory notification as well as track and record the number of positive contacts made by the system during the course of the notification and provide a confirmation report for the sender. The system can generate text to speech, text and pre-recorded voice messages that may easily be created by the sender. Numeric pagers, emails and faxes are also available modes for sending notifications.
- Where secure or sensitive information is concerned, the notification message simply will instruct the recipient to go to the HAN homepage for detailed information about the incident.

NYSDOH will cover the costs of faxes and phone calls incurred when designated state or local health officials use of the notification system.

Levels of Notification:

NYSDOH will adapt CDC terminology and standard formats and vocabularies for notifications – (please note: User prioritized Emergency day and after hours contact information is used for alerts, high advisories, and drills.):

1. Alert – highest priority and urgency level of emergency notification; warrants immediate action or attention by the recipient. The Recipient’s Emergency Contact Information will be used in this type of notification. An acknowledgement of receipt by each of the intended recipients is required for phone mode of contact; and is tracked by the notification software. Multiple contact modes may, and should be utilized. HAN postings may be created, of either a public or private (only viewable by targeted audience) audience type, for this level of notification.
2. High Advisory – high priority does not warrant immediate action but recipients should be aware and may wish to take preparatory action. The Recipient’s Emergency Contact Information will be used in this type of alert notification. An acknowledgement of receipt by each of the intended recipients is required for phone mode of contact; and is tracked by the notification software. Multiple contact modes may, and should be utilized .HAN postings may be created, of either a public or private (only viewable by targeted audience) audience type, for this level of notification.
3. Advisory – provides situational awareness and does not require immediate action. The Recipient’s Business Contact Information will be used, such as office phone, fax, email, but not pagers or cell phones. Recipients will receive phone notification for advisories only during normal business hours and only to their business phone; emails or faxes sent as part of an advisory may be accessed by the Recipient at any time. HAN postings may

- be created, of either a public or private (only viewable by targeted audience) audience type, for this level of notification.
4. **Update** – provides updated information regarding an ongoing incident or situation; not intended to require immediate action. If more immediate action is necessary, a new alert, or high advisory level notification should be issued. This notification type would only have access to publicly available office or contact information. Only the organization issuing the notification will be allowed to send an update to that notification. HAN postings may be created, of either a public or private (only viewable by targeted audience) audience type, for this level of notification.
 5. **Informational (available to NYSDOH users only)** – provides timely information for normal business. Informational level notifications will be sent to recipients only during normal business hours and will be sent only by fax and email. HAN viewer postings are not available for informational messages. A single document may be attached to an email sent via an informational notification; however attachments to fax are not available at this time.

Protocols for using the Notification System

Local Health Departments, Hospitals, NYSACHO, and other IHANS Partner Organizations will be granted access to using the Emergency Notification System for sending notifications in accord with the following conditions:

- ▶ **Statewide** -- only to recipients at like organizations or facilities (i.e., of the same organization type, LHD to LHD, hospital to hospital), or to the appropriate program contacts in the NYSDOH (central and regional offices).
- ▶ **Jurisdictional** -- to recipients may be at all other organizations or facilities types that are within their geographic jurisdiction only, i.e., LHD may send a notification only to hospitals that operate within their county's jurisdiction.

Access to the Notification System for Sending Messages: Communications Directory role based access to use the Notification System is available only to the roles of LHD Public Health Director or Commissioner of Health, and Director, NYSDOH Regional Offices. At NYSDOH central or regional offices and at local health departments, other individuals may be designated as users, and granted access to the system; but this request must be submitted using the online request for access form, or by request directly to the application owner (Bob Burhans). Users have the authority to send alerts, advisories, and updates as well as review confirmation reports and determine the recipient group. If HAN posting is used as part of the notification, authorized users have the ability to designate whether the notification is open view, i.e., all HPN users may view the posting on the HAN viewer or targeted view, i.e., only recipients of the notification will be able to view the message on the HAN viewer.

1. Sending Notifications – Access to sending notifications will be limited to senior officials and their designees at the NYSDOH central and regional offices, LHD Commissioners and Public Health Directors or other appropriate senior officials and their designees that have participated in the Notification System Certification Training. Notifications sent by NYSDOH Regional offices, LHDs, and other IHANS Partner Organizations (in the future) will automatically generate a simultaneous notification to NYSDOH Central Office executive staff and appropriate regional offices.
2. LHDs, and other IHANS Partner Organizations currently using a local alerting system, should integrate the use of their system with the policies of NYSDOH programs and CDC

PHIN standards regarding notification protocols, and coordinate closely with the NYSDOH.

Receiving Alerts or Advisory from the Notification System

LHD staff provided with alert receiving devices such as cell phone and pager, will have these devices available to them at all times. Alerts involving LHDs will fully utilize the alert devices being provided to key staff with CDC Public Health Preparedness funding. Key staff includes:

- LHD Commissioner or Public Health Director
- Deputy or Chief Administrator
- Communicable Disease Director
- Environmental Health Director
- Public Health Preparedness – Primary Contact
- Laboratory Director (where applicable)
- Additional roles such as the HERDS roles or other key roles as appropriate to the emergency situation

LHDs, Hospitals, NYSACHO, and other IHANS Partner Organizations Responsibilities

1. Follow the instructions issued in the notification, for example go to the HAN for more information, or log on to HERDS to monitor the progress of hospitals in your counties that were activated to enter data.
2. User organizations will be responsible for contacting their target group of organizations either by using the NYSDOH Notification System tool on Commerce or through their own mechanisms, e.g., local radio network or call down lists, for healthcare provider or first responder organizations that have not entered, or permitted their contact information to be entered by into the NYSDOH Communications Directory.

Rules for Notification Prioritization

Rules have been specified for queuing notification messages through the system sent based on the urgency level of notification and jurisdiction of sender in order to ensure that the highest priority notifications are apportioned the system resources appropriate for the urgency level of their notification. These queuing rules are currently being built into the system but are not available at this time.

1. Priority by Notification Urgency levels:
Alert> High Advisory>Advisory>Update>Informational, i.e., Alerts are sent before High Advisories, High Advisories before Advisories
2. Priority by Organization type within an equivalent urgency level:
State DOH >Regional>State Agency>LHD>Facility
 - ▶ Within State NYSDOH: first in, first out
 - ▶ Within region: By population order (Vertical down/up > horizontal (area))
 - ▶ Across State Agencies: Emergency management, surveillance and response agencies, followed by others Across LHDs: By population:

NY City> LHD alliances>highly populated counties, etc. (Vertical down/up > horizontal (area))

- ▶ Across facilities: associations>networks>opcerts>individual PFIs (Vertical down/up > horizontal)

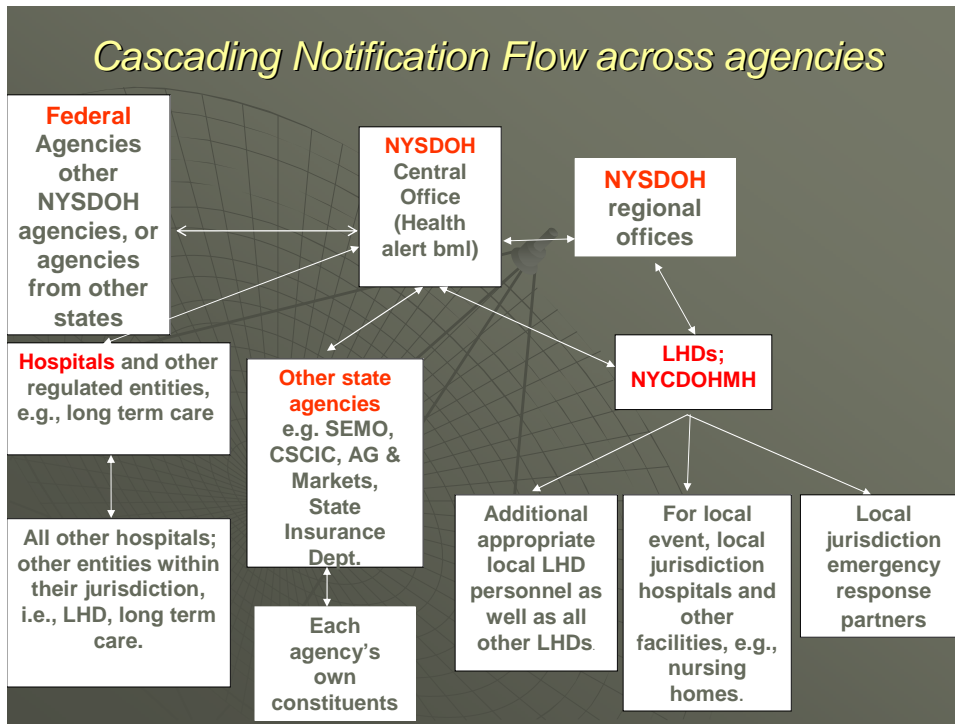
3. Across Organization types and Priority levels:

Alert>Advisory>Update>Informational, etc., i.e., LHD Alert goes out before a State level Advisory

Cascading Notifications: Preserving jurisdictional and organizational authority -- Protocols for NYSDOH Reviewing and Sending Notifications.

Multiple agencies share alerts with the NYSDOH and multiple programs within NYSDOH may wish to send notifications. Prior to disseminating these alerts to local health agencies, healthcare providers and other emergency responders through the HIN/HPN/HAN, some may require review. Following national protocols for emergency notifications and communications, each agency preserves the right to notify its own constituents, e.g., NYSDOH notification regarding foodborne illness is sent to Department of Agriculture and Markets, central office staff who in turn will determine appropriateness of notification, appropriate recipient group, and ultimately will send out the notification using the Notification System tool on Commerce. NYSDOH does not supercede the authority of Ag & Markets by directly notifying their constituent group.

1. NYSDOH asks the CDC and other agencies such as OPS to forward their alerts, advisories and updates to the Lotus Notes HealthAlert BML. When a message is received in the bml by an approved agency, specific individuals in the NYSDOH Office of Public Health Preparedness and BHNSM Health Alert Network receive a text message on their cell phones indicating there is a message in the bml needing review for possible posting and sending notifications to NYSDOH constituents. These reviewers may need additional approval of NYSDOH Executive staff, or they may post the message on the HAN and send out a notification using the notification system tool on Commerce to post and send the notification themselves. As a backup, they may forward the notification to HINWeb. BHNSM staff members are available on a 24/7 basis to follow programmatic instructions on posting and/or sending the message.
2. NYSDOH program area generated notifications: program area staff within NYSDOH that are designated as valid senders of notifications may send a request for posting and sending a notification to HINWEB.
3. Agreements on format of the message to be posted and mode of receipt must be obtained with submitting agencies.
4. Organizations issuing an original notification are the only valid senders for any subsequent updates to that notification.



Homeland Security Threat Levels

Although the Federal government may choose to elevate the National Homeland Security threat level, NYS may not change the NYS Homeland Security threat level in conjunction with Federal activity. It is important, however, to notify NYSDOH partners in public health preparedness of the status of the State's decision with respect to Federal action. Therefore, an advisory message will be sent by NYSDOH to its constituents notifying them of this status. A guide booklet has been distributed to all the counties outlining the set of actions each constituent group should take under each specific threat level. This set of standard activities is available on the HAN under the "Public Health Preparedness and Planning subsection of the "Public Health Preparedness and Response to Bioterrorism" homepage and will accompany any alert or advisory that changes the State threat level.

Data Sharing Agreements

FOR DOH USE:
Request Number(s):

INDIVIDUAL AFFIDAVIT NYSDOH DATA SHARING AND NON-DISCLOSURE AGREEMENT

Applicant Organization Name:

STATE OF _____)

COUNTY OF _____) ss.:

_____, being duly sworn, deposes and says:

(Name of Individual)

1. I am a member, employee or agent of the above identified organization/jurisdiction and an individual who will use or have access to the data provided through the NYSDOH Public Health Preparedness Portal (aka PHP Portal) on the NYSDOH Health Commerce System (Aka HIN/HPN). I have read, understand and agree that I am also bound by the Organizational data sharing agreements signed by my organization and by the NYSDOH health commerce user and organizational agreements.

2. The data that I may derive or receive from the PHP Portal is confidential and is subject to strict limitations on disclosure as described on the Organizational data sharing agreement signed by my organization. I have been informed by the New York State Department of Health that no attempt may be made by my organization or anyone employed by or under contract to my organization to identify specific individuals from the Portal data except in those cases where the data supplied are to be used for legally authorized surveillance, public health response, or where specific written authorization has been given by the organization/jurisdiction with regulatory or statutory authority over the data provided by that organization/jurisdiction to the PHP Portal.

3. I also acknowledge that I have been informed by the New York State Department of Health the following restrictions on my organization's use of any data/information to which the PHP Portal System grants access:

- a. Access to any data derived from the NYS Public Health Preparedness Portal will be granted only to the individual(s) who have signed data sharing affidavits and filed them with the New York State Department of Health.

- b. Data will be used only for the express purpose Public Health Preparedness or Response.
- c. No data will be released or disclosed to any person or entity or published in any manner whatsoever without prior written approval of the authoritative organization/jurisdiction providing that data to the portal and pursuant to (whatever laws available 10 NYCRR Section 400.18):
- d. Publications or reports using the source data owned or provided by a organization/jurisdiction contributing to the ‘portal’ requires a written release from that organization/jurisdiction
- e. Data that I have derived from the Portal will be processed and disposed of as was indicated in Schedule “C” in the Organizational Agreement.
- f. My organization/jurisdiction may not retain any data beyond two years from the date of original release of these data on the NYSDOH Health Commerce system unless an extension is requested and approved by the New York State Department of Health

I am aware that any violation on my part of these assurances and promises make me personally subject to the following penalties:

- a. I agree to pay \$25,000 for each incident to the organization/jurisdiction who’s data was disclosed through my contributing actions.
- b. I agree to pay all damages, court costs and attorney fees that may be incurred by the jurisdiction whose data was disclosed through my contributing actions.

Date

Signature

Name Printed

Title

Organization

Subscribed and sworn to me on

this ____ day of _____, 20__

Notarization

FOR DOH USE:
Request Number(s):

**ORGANIZATIONAL AFFIDAVIT
NYSDOH DATA SHARING AND NON-DISCLOSURE AGREEMENT**

Applicant Organization Name:

STATE OF _____)

COUNTY OF _____)

_____, being duly sworn, deposes and says:
(Name of Individual)

2. I am _____, of _____
(Title) (Name of Organization/Jurisdiction)

and am a person authorized to sign on behalf of this organization/jurisdiction and my signature indicates organization/jurisdiction support for this data sharing process and responsibility for maintaining the confidentiality of all data provided/derived through the NYS Public Health Preparedness Portal (aka PHP data portal) within the NYSDOH Health Commerce System (aka HPN or HIN). I have read, understand and agree that my organization is also bound by the NYSDOH health commerce user and organizational agreements. I also understand and agree that:

- a. The purpose of this agreement is to enable sharing and exchange of data provided by my organization/jurisdiction as well as others accessing the PHP data Portal System
- b. My organization/jurisdiction agrees to provide/contribute and make available de-identified records and aggregate level data to/on the PHP data portal system as detailed in Schedule "A". This will occur either directly or indirectly from data derived from my organization/jurisdictions reporting to reporting to other commerce systems including, but not limited to the Outbreak Tracking System, ECLRS, HERDS, CEDSS, Confidential Case, SPARCS, Event detection/surveillance, counter measure administration, Volunteer Tracking Systems.
- c. My organization/jurisdiction is the authoritative owner of the data provided by my organization/jurisdiction to the PHP Portal.
- d. Specific roles and organizations will be provided access to that data as described in Schedule "B".
- e. My organization/jurisdiction will be provided equal access to data provided to the Portal by other participant organization/jurisdictions as detailed in Schedule "A" and "B".

- f. My organization/jurisdiction recognizes that other organizations/jurisdictions contributing data to the PHP Portal are the sole authoritative owners of their data.
 - g. My organization understands and agrees to respect the co-participating organization/jurisdictions ownership and right to control access to and release their data.
3. The data that my organization/jurisdiction may receive or derive from this portal system are confidential and are subject to strict limitations on disclosure prescribed in Title 10 of the Official Compilation of Codes, Rules and Regulations (10 NYRR Section 400.18) (HIPAA, other public health laws as apply). I have been informed by the New York State Department of Health that no attempt may be made by my organization or anyone employed by or under contract to my organization to identify specific individuals from the Portal data except in those cases where the data supplied are to be used for legally authorized surveillance, public health response, or where specific written authorization has been given by the organization/jurisdiction with regulatory or statutory authority over the data provided by that organization/jurisdiction.
4. I also acknowledge that I have been informed by the New York State Department of Health the following restrictions on my organization's use of any data/information to which the Portal System grants access:
 - a. Access to any data derived form the NYS Public Health Preparedness Portal will be granted only to the individual(s) who have signed data sharing affidavits and filed them with the New York State Department of Health.
 - b. Data will be used only for the express purpose Public Health Preparedness or Response.
 - c. No data will be released or disclosed to any person or entity or published in any manner whatsoever without prior written approval of the authoritative organization/jurisdiction providing the data to the portal and pursuant to (whatever laws available 10 NYCRR Section 400.18):
 - d. Publications or reports using the source data owned by a organization/jurisdiction contributing to the 'portal' requires a written release from that organization/jurisdiction
 - e. Data derived from the Portal will be processed and disposed of as was indicated in Schedule "C".
 - f. The organization/jurisdiction may not retain any data beyond two years from the date of original release of these data on the NYSDOH Health Commerce system unless an extension is requested and approved by the New York State Department of Health
4. My organization will cooperate and be responsible for the cost of any investigation by NYSDOH into the unauthorized disclosure of another organization's/jurisdiction's data derived from the PHP portal system by any

member, agent or contractor from my organization/jurisdiction. Should said unauthorized disclosure occur through the actions of employees, members, agents or contractors of my organization I agree to the following conditions:

- a. My organization/jurisdiction agrees to pay \$25,000 for each incident to the organization/jurisdiction who's data was disclosed.
- b. My organization/jurisdiction agrees to pay all damages, court costs and attorney fees that may be incurred by the jurisdiction whose data was disclosed by my organization.

Date

Signature

Name Printed

Title

Organization

Subscribed and sworn to me on

this _____ day of _____, 20__

Notarization

Data Sharing Agreement Schedule “A”

Data elements to be shared, based on business rules in Schedule “B”

NOTE: The Human data elements exclude STD, TB, Cancer or HIV registry data.

I. Record level data and summaries thereof.

1. 'De-identified' Human record data record data involving human cases. Inclusive of, but not limited to: CDESS, ECLRS, clinic/treatment management, outbreak management, CRA, SPARCS/ED, SPARCS/inpatient stays), Syndromic or any Event Detection data, CCDMS, LRN/Lab Communications and Capacity, nosocomial outbreaks, Isolation and Quarantine, long term care patient information

Dashboard Elements

- Gender
- Race
- Ethnicity
- Age
- Zip of patient residence
- Geo-coded patient location
- State/County of patient residence
- Health care Facility code/name (if admitted)
- State and County, zip, geopoint location of Health care Facility (if admitted)
- If admitted:
 - LOS
 - ICU admit? (yes/no)
 - Ventilator use? (yes/no)
 - Isolation? (yes/no)
- State and County of health jurisdiction
- Occupation
- Employment Location (State, county, city, zip)
- Disposition (died, discharged, e.g., See SPARCS ADREL)
- All associated Diagnoses
- All associated signs/symptom codes (including lab test results and chief complaint)
- All associated Procedures and test results (includes lab tests ,med/surgical Procedures, treatment/prophylaxis)
- All dates(year , month, day) related to admission, diagnoses, procedures, cc, treatment/prophylaxis, on set, confirmation, suspected case, disposition
- Internal ID (OID)

2.'De-identified' Detail record data for owned/animals, wildlife and vector.

- Species or general type (for owned animals)
- Gender (where applicable)
- Signs/symptoms/diagnoses
- Geo-coded location
- Case status/lab results

- State and County, zip, geopoint location where ‘found’ or lives.
- Internal ID (OID)
- All dates (year , month, day) related to above

3. Facility, organization, virtual entity (e.g. POD, stand up clinic, etc.)

- Attributes (e.g. ED, trauma center, clinical lab, burn center)
- Fixed Assets (CT Scan, MRI, generators, etc)
- Surge for all bed types
- Durable/Movable assets (Vents, cardiac Monitors)
- Facility patient info: counts: ED traffic, surveillance data, event patients, bed availability, etc. (individual patient data is expressed per above)
- Expendable assets (pharmaceuticals, vaccines, PPE, etc.)
- Communications assets
- Personnel
- Facility/ Organization Resources needed/providable (inclusive of vaccines and antivirals)

4. Vaccine and anti-viral assets

- All SNS and MERC assets and inventory
- All fields reported by state, local health, health facilities related to vaccine and antiviral inventory and tracking.

5. Volunteer assets

- Type of practitioner (e.g. MD, Dentist, Vet, nurse)
- Specialty and certifications as appropriate
- Availability
- Willingness to relocate
- Home/office location: zipcode, county, region, state
- Person attributes: Languages spoken, training, vaccinations, etc.

6. Counter Measure Response Administration

Data elements segments for substance administration, follow up, other treatments, referral, and adverse events messages:

Patient information in all message types:
Date and time of Birth
Birthplace
Gender
Race
<ul style="list-style-type: none"> • Street address • Other designation • City • Zip code • County/Parish code
Ethnicity
Citizenship
Date and time of Death
Death Indicator (Y/N)
Identity Unknown Indicator
Tribal Citizenship
Substance Administration Ordering Facility Name Ordering Facility Address Ordering Provider Address Date/time start of administration Administered At Location Administered Code (codes for substance administered) Substance lot number Substance Manufacturer Name Completion Status Placer Group Number – name and ID of campaign under which the patient is being treated
Observation Date and Time <ul style="list-style-type: none"> • E.g. when quarantine or isolation began
Observation Identifier
Observation Value (in all message types) <ul style="list-style-type: none"> • Encounter type • Exposure type • Treatment status • Previous vaccination history • Substance administered • Take response • Risk category • Occupation
Referral (by sending application) Diagnosis Code Diagnosis Date/Time Adverse Events Placer Group Number -- Name and ID of campaign in which adverse event occurred

Observation value <ul style="list-style-type: none"> • adverse event consequence • vaccine administered at • date/time of observation
--

Data Sharing Agreement Schedule B.

Data Access Rules

Refer to Schedule “A” for definition of de-identified Records

I. Within NY State Jurisdiction

A. De-identified Record Level Access Limited to **Key Roles** within Organizations

Organization	Data System (See Schedule “A”)			
	Human	Animal/Vector	HERDS	Volunteers
State-Central DOH	S	S	S	S
State-Regional DOH	S	S	S	S
County DOH	R	R	R	R
Facility	f	na	f	na

Notes: S=Access to any record in State, R=access to any record in Region, f=access to any record for the facility. Region=Defined as <<< Insert definition if Region is to be other than NYSDOH Regional Office Region HERE e.g .Region could be nearest neighbor>>>

B. Summary Level Access

a. **Limited to Key Roles.**

Organization	Data System (See Schedule “A”)																			
	Human					Animal/Vector					HERDS					Volunteers				
	Summary Level					Summary level					Summary level					Summary Level				
	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F
Access Level					Access Level					Access Level					Access Level					
State-Central DOH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State-Regional DOH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
County DOH	1	1	1	2	2	1	1	1	2	2	1	1	1	2	2	1	1	1	2	2
Facility	1	1	2	3	4	1	1	2	3	4	1	1	2	3	4	1	1	2	3	4

Notes: **Summary Levels:** S=statewide summaries, R=Region-wide summaries, C=county-wide Summaries, Z=summary by zipcode, F=summary by named facility
Access levels: 1=No access restriction; 2=within region of location/jurisdiction only; 3=within county of location/jurisdiction only;4=within specific facility; 0=no Access.
 Region=Defined as <<< Insert definition if Region is to be other than NYSDOH Regional Office Region HERE e.g .Region could be nearest neighbor>>>

b. Available to Supportive Roles.

Organization	Data System (See Schedule "A")																			
	Human					Animal/Vector					HERDS					Volunteers				
	Summary Level					Summary level					Summary level					Summary Level				
	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F
Access Level					Access Level					Access Level					Access Level					
State-Central DOH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
State-Regional DOH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
County DOH	1	1	1	2	3	1	1	1	2	3	1	1	1	2	3	1	1	1	2	3
Facility	1	1	3	0	4	1	1	3	0	4	1	1	2	0	4	1	1	3	0	4

Notes: **Summary Levels**: S=statewide summaries, R=Region-wide summaries, C=county-wide Summaries, Z=summary by zipcode, F=summary by named facility

Access levels: 1=No access restriction; 2=within region of location/jurisdiction only; 3=within county of location/jurisdiction only;4=within specific facility; 0= No access.

Region=Defined as <<< Insert definition if Region is to be other than NYSDOH

Regional Office Region HERE e.g .Region could be nearest neighbor>>>

c. Available to Other Roles.

Other roles 'of interest' would have summary level access for Statewide, regional and county totals of the above data sets.

C. **Key Roles**. Those roles defined as key decision makers or professionals essential to planning, surveillance and response. These are: Public health Director/Commissioner, Lead Epidemiologist , BT Coordinator/Director Public Health Preparedness, Director Hospital/Patient Services, Director Health Facility Preparedness, Lab Director/Chief , Lead Public Health Vet., Director Arbo Virus Program, Communicable/infectious Disease Coordinator, Environmental Health Director, Incident commander.

D. **Supportive Roles**. Those roles defined as supportive to planning, surveillance and response. These include: PIO, WMD coordinator, SNS coordinator, Environmental Health Responder, Director Medical and/or ED Services,

E. **Other Roles**. These roles are define as roles of interest in Public Health response: law enforcement, first responders, homeland security,etc.

II. External Jurisdictions.

Data sets exchanged with external jurisdictions would be on a *quid pro quo* basis. Access to data within NYS Health Jurisdiction for data derived within NYS jurisdiction follows rules in Section I above. Data exchanged between jurisdiction would follow the rules in II.A and II.B below.

These are examples below. State health includes NY State, any state, any local health entity.

A. De-identified Record Level Access Limited to **Key Roles** within Organizations

Organization	Data System (See Schedule “A”)			
	Human	Animal/Vector	Facility assets/ surveillance	Volunteers
State Health Entity	R	R	R	R
Local Health Entity	R	R	R	R
Facility	f	na	f	na

Notes: S=Access to any record in State, R=access to any record in Region, f=access to any record for the facility. Region=Defined as <<<e.g .Region could be nearest neighbor>>>

B. Summary Level Access

a. **Limited to Key Roles.**

Organization	Data System (See Schedule “A”)																			
	Human					Animal/Vector					Facility Data					Volunteers				
	Summary Level					Summary level					Summary level					Summary Level				
	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F	S	R	C	Z	F
Access Level					Access Level					Access Level					Access Level					
State Health Entity	1	2	2	2	2	1	2	1	3	1	1	2	2	2	1	1	2	2	2	2
Local Health Entity	1	2	2	2	2	1	2	2	2	2	1	2	2	2	2	1	2	2	2	2
Facility within jurisdiction	1	2	3	0	4	1	0	3	0	4	1	2	3	0	4	1	2	3	0	4

Notes: **Summary Levels:** S=statewide summaries, R=Region-wide summaries, C=county-wide Summaries, Z=summary by zipcode, F=summary by named facility

Access levels: 1=No access restriction; 2=within region of location/jurisdiction only; 3=within county of location/jurisdiction only;4=within specific facility; 0=no Access.

Region=Defined as <<< Insert definition if Region is to be other than NYSDOH

Regional Office Region HERE e.g .Region could be nearest neighbor>>>

Appendix 13-G: Technical Acronym List

ALE	Automatic Link Establishment – initiate and sustain HF radio communications
AMFAX	Fax Broadcasting, Email Broadcasting and Voice Broadcasting On-line service
C-Band	Microwave range of frequencies ranging from 4 to 8 GHz used for satellite TV
CDC	Center for Disease Control
CDESS	Communicable Disease Emergency Surveillance System
ECLRS	Electronic Clinical Laboratory Reporting System
FEMA	Federal Emergency Management Agency
HAN	Health Alert Network
HERDS	Hospital Emergency and Research Data System
HF	High frequency
IP	Internet protocol – communications standard
ISDN	Integrated Services Digital Network – type of digital phone line
IVR	Interactive Voice Response
J2EE	Java 2 Platform, Enterprise Edition
kVA	Kilo Volt Ampere
kW	Kilowatt
LAN	Local area network
LDAP	Lightweight Directory Access Protocol
LTO3	Digital Linear Tape with 80 Gigabyte capacity
NIH	National Institute of Health
NYeNet	Wide area Network operated by Office for Technology of New York State
NYSTEC	New York State Technology Enterprise Corp - not-for-profit engineering company
OFT	Office for Technology of NY State
OS	Operating system
PRI	Primary rate interface – usually for ISDN at T1 speed
PSK	Phase-shift keying (PSK) - digital modulation scheme to send data on radio signal
RACES	Radio Amateur Civil Emergency Service is a standby radio service
RADIUS	Remote Authentication Dial-In User Service
RTTY	Radio teletype
SAN	Storage Area Network
SMTP	Simple mail transport protocol
SONET	Synchronous optical networking
SSB	Single-sideband modulation - refinement of amplitude used in radio transmission
SSL	Secure sockets layer for secure web browsing
SUN	Computer hardware and software vendor
T1	Digital signal 1 that runs at 1.544 Mbps line rate
T3	Digital Signal 3 that runs at of 44.736 Mbps

UNIX	Operating system
UPS	Uninterruptible power supply
Veritas	Computer software company
VHF	Very high frequency radio
VOIP	Voice over IP – voice communications over internet protocol
VPN	Virtual private network for secure IP communications
XML	Extensible Markup Language