PANX 2018 EXECUTIVE LEVEL PANDEMIC RESPONSE WORKSHOP

EXECUTIVE LEVEL BRIEFING

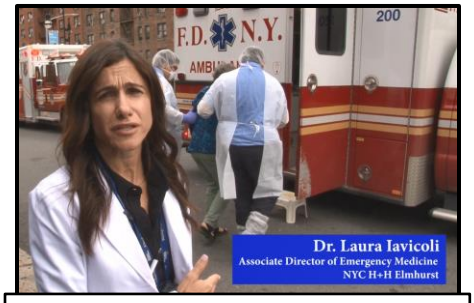
PanX 2018 was an executive-level workshop hosted by NYC Health + Hospitals (H+H), the nation's largest municipal healthcare delivery system, in collaboration with the Johns Hopkins University Center for Health Security. The workshop was held in November 2018 to mark the 100th anniversary of the 1918 influenza pandemic. The principal aim was to highlight important high-level strategic decisions an integrated healthcare delivery system—comprising acute, post-acute, and ambulatory sites—would pursue along with local, state, and federal public health authorities in order to prepare for and respond to a severe pandemic. The pandemic scenario was presented through series of simulated Emergency Operations Center (EOC) incident briefings with 18 senior leaders across H+H's healthcare delivery system playing in their current, prominent roles and representing all aspects of healthcare delivery from clinical care operations to laboratory, finance, human resource, and others across the three service lines. Module 1 of the workshop focused on the healthcare delivery impact and initial response to an unfolding pandemic. Module 2 focused on the role of public health partners and liaisons in supporting the healthcare delivery system. Participant roles included nine local, state, and federal healthcare and public health officials, played by individuals in current, prominent fields of public health or epidemic response. Module 3 addressed some preparedness and response challenges related to surveillance and diagnostic technology as experts described many new innovative tools that may be implemented for future use.

Module 1 Exercise Players

EXERCISE FORMAT

PanX 2018 was conducted in front of a live audience of more than 100 healthcare executives, senior advisors, academics, and government officials as well as national and international public health community members. The exercise was organized into three modules. Information was provided to the players via emergency operations briefings and pre-produced media video clips.

Module 1: Healthcare Delivery Impact & Response
Module 1 addressed issues associated with impact to the healthcare delivery system—specifically, in the context of facility staff, supplies, and space—during an unfolding novel H7N9 influenza epidemic in NYC. Module 1 included high-level lessons learned from a real infectious disease mystery patient surge drill conducted previously at a NYC Health + Hospitals acute care site.



Surge Mystery Patient Drill
NYC Health + Hospitals/Elmhurst

Module 2: Public Health Partners & Liaisons
Module 2 explored the public health response to an unfolding epidemic in NYC, including the assistance and resource support provided to healthcare delivery systems like NYC Health + Hospitals. Playing agencies included:

- New York City Department of Health and Mental Hygiene
- New York City Emergency Management
- New York City Fire Department Emergency Medical Services
- Greater New York Hospital Association
- Office of the Assistant Secretary for Preparedness and Response
- Centers for Disease Control and Prevention
- National Ebola Training and Education Center

Module 3: Current and Prospective Technologies for Pandemic Preparedness and Response
Module 3 consisted of presentations from the Originator of "Outbreaks: Epidemics in a Connected World" by Smithsonian Institute National Museum of National History on lessons learned from 1918, Defense Advanced Research Projects Agency (DARPA) of the United States Department of Defense, CDC and Johns Hopkins Center for Health Security on innovative technologies that could support pandemic preparedness now and in the future.

EXERCISE SCENARIO

The PanX 2018 scenario begins with Module 1, and players are presented with the following information: The National Health and Family Planning Commission of China notifying the World Health Organization (WHO) of laboratory-confirmed cases of human infection with avian influenza H7N9 virus with investigation ongoing. There have been no cases reported outside of China. The first discussion in Module 1 focused on what, if anything, NYC Health + Hospitals would do in response a distant outbreak of H7N9, including what effect these actions might have on routine operations.

Dr. Kevin Yeskey, Principal Deputy, ASPR, Keynote

As the scenario continues, several EOC Incident Briefings were convened with Executive Leadership to provide system updates and current events as novel H7N9 with human-to-human transmission spreads outside of China and into NYC, initially undetected against the background of early flu season cases, resulting in several generations of disease transmission. Additional context was presented to the participants to illustrate the projected severity of the outbreak on the healthcare delivery system. Staffing models demonstrated the increased patient influx and the associated burden on staff. The projected epidemic curve showed that the surge was expected to escalate further as time progressed.

Throughout the ongoing discussion in Module 1, Executive Leadership deliberated necessary response actions as they were confronted with several complex problems, including:

- Threat of a distant outbreak
- Surge capacity of healthcare delivery system
- Depleting supply stockpile and concerns over resource allocation
- Staffing shortages and disproportionate staff to increased patient ratio
- Additional space needed for increased patient volume surge
- Command, control and communications within the healthcare delivery system
- Communication, collaboration
- Crisis standards of care

Pre-Produced News Clipping #2
NYC Health + Hospitals/Jacobi

Module 2 centers on the public health response occurring in the same timeframe presented in Module 1. The discussions focused on the role, the type of assistance, and resource support each participating agency would be providing to H+H and other healthcare delivery systems as the pandemic emerges in New York City as well as their respective triggers points for activating internal response mechanisms.

RECOMMENDATIONS

PanX 2018 was based on the principle that, ready or not, patients will present. The frontlines of healthcare delivery span the acute, post-acute, ambulatory facilities and all other sites that deliver healthcare services. To better prepare for and respond to future epidemics, NYC Health + Hospitals recommends 4 strategic priorities:

1. **Strong Focus on the Frontlines of Healthcare Delivery: Decision Support Tools, Diagnostic Resources, and Training**
    a. Enhance Tools and Resources at the Frontlines of Healthcare Delivery
        i. Improve local disease screening surveillance and decision support
            1. Enhance electronic medical records to facilitate routine travel & illness screening
            2. Real-time data analytics of patient arrivals at healthcare facilities for outbreak detection and reporting
            3. Surveillance results shared with public health entities in real-time to allow greater sensitivity to pandemic situations
        ii. Establish regional and national databases to track trends; suspected cases, outbreaks, survivors and other relevant data for agencies and healthcare entities.
            1. This data can be used to tailor response and interventions
            2. Use of cell phones and internet to communicate with the public to help with reporting of signs and symptoms
        iii. Optimize ability to upscale clinical evaluation capacity and diagnostic capabilities
            1. Design & simulate robust surge plans in anticipation of need to expand clinical care delivery space (e.g. tents, trailers, re-opening closed "brick and mortar" clinical units) to increase throughput
            2. Rapid lab turn-around time for routine use that can be scaled upward during enhanced volume (e.g. increase quantitative PCR analyzers available) and optimizing use of point-of-care diagnostic testing
            3. Stockpile therapies for rapid distribution and develop plans to increase manufacturing during a pandemic
    b. Increase Available Training for Frontline Staff
        i. Help frontline staff prepare to manage atypical tasks for their positions during critical need. Design just-in-time, adaptability and, cross training including:
            1. Basic ventilator use, medication pumps, pressure bag implementation and equipment troubleshooting for non-ICU staff
            2. Non-specialty physician, nurse practitioner & physician assistants training in life saving procedures (e.g. endotracheal intubation, cricothyroidotomy, needle decompression, etc.)
        ii. Increase training center capabilities for both ongoing as well as upscaling for just-in-time training
            1. Regional training centers need to be developed to train key staff at health systems who will conduct the ongoing and just-in-time training
            2. Up-to-date national database of reserve corps of volunteers and trained personnel with uniform credentialing guidelines

2. **Interdisciplinary Network: A 'Brain Bank' to Provide Guidance to Healthcare Delivery System and Answer Questions Regarding Clinical Care Protocols in Real Time**
    a. Establish a multidisciplinary group of subject matter experts to engage in in-depth dialogue regarding crisis standards of care and proactive methods for managing the impact to the healthcare delivery system during an outbreak
        i. These experts would represent various backgrounds, such as physicians, nurses, infection preventionists, public health professionals, ancillary support staff professionals, and epidemiologists, etc. in order to foster a multifactorial approach. This group would create and communicate changes in/deviations from usual practice standards as a result of waivers to regulations issued in a pandemic; e.g. changes in Emergency Department triage protocols
    b. Develop networks of experienced professionals equipped to answer questions and provide methodological advice using best information available
        i. The 'Brain Bank' would serve as a clearinghouse for frontline providers' questions and operational concerns and link to an external network of experts who could offer additional intelligence and highly specialized expert advisors
    c. Create a sector of the interdisciplinary team specifically responsible for guidance of Intensive Care Unit interventions in a crisis environment
        i. The team's suggested interventions and guidance to support crisis standards of care would grant temporary permission to thoughtfully improvise during the event of a pandemic
            1. The short-term solutions may involve temporary waivers and regulatory by-passes. Protocols related to these solutions would be formed and may be based upon best practices and predicted surge incidents
                a. For example, developing guidelines for using a single ventilator for ventilating multiple patients simultaneously and for timing of triage out of the ICU when recovery chances are decreasing, may facilitate maximizing the number of individuals treated
            2. Successful interventions developed through this collaboration would then be communicated across the health system and to external partners for potential implementation

3. **Consistent and Reliable Communication, Coordination, and Collaboration between Public Health Agencies and Healthcare Delivery Systems via Emergency Management Structures and Processes**

    a. Communication: Develop and implement functional plans for public communication of a unified and coordinated message for local, state, national and international partners including the United Nations (UN), CDC, ASPR, NYC DOHMH, World Health Organization (WHO) to ensure transparent information sharing
        i. Guidance from various public health and federal agencies should be consistent and in agreement with one another
            1. Clinicians often rely upon these official guidance announcements, especially during emergencies. A unified message is key to promoting a standardized approach to clinical practices across multiple healthcare systems
            2. This guidance includes elements such as accurate case definitions (e.g., incubation period, symptomology, exposure), managing ill staff, and vaccine protocols and standards

ii. Create a more efficient and streamlined reporting system to avoid repetitive information sharing
    1. Multiple public health and federal agencies request overlapping information from healthcare facilities, which poses increased burden on limited resources
    2. Hospitals should be responsible for providing an all-inclusive status report that may be shared amongst the various agencies in order to avoid repetition and to make more efficient use of their time

b. Coordination: Develop and implement qualitative and quantitative triggers to access public health and emergency management resources at the local, state, and national levels to support healthcare delivery systems
    i. Public health agencies should work collaboratively with healthcare workers to develop a sequential process for requesting, accessing, and distributing public health resources during an epidemic
        1. This sequential process should be based upon definitive quantitative values that identify various levels of event severity based on the hospital's current capacity and needs
        2. Establish explicit thresholds within this system, including indications of shortages in any of the following: staff, supplies, and space
            a. Permission to overrule certain regulations regarding additional temporary space should be considered based upon real-time impact level
                i. This includes the authority granted to construct supplementary space needs in the form of a tent or mobile medical unit without awaiting regulatory site visit to operationalize

c. Employ the Incident Command System to manage all activities related to pandemic response and recovery
    i. Establish formal relationships between facility, system, and local/state Incident Commands to facilitate rapid and effective coordination during pandemic responses

d. Collaboration: Ongoing collaboration with the health community, effective information sharing, and coordination of response activities in preparing for and responding to a pandemic
    i. Increase engagement with public health authorities to promote a rapid response to lessen the burden on a healthcare delivery system prior to and during surge

4. Financial Assistance to Healthcare Delivery Systems to Prepare for, Respond to, and Recover from a Pandemic

a. Emergency financial aid should be granted to healthcare delivery systems who are severely affected by a pandemic
    i. Financing workers compensation to allow additional sick time/disability allotments for those health care workers who become ill as a direct result of their care delivery during the pandemic
    ii. Demobilization costs may be substantial, including terminal cleanings, decommissioning temporary clinical surge care areas, restocking depleted supplies and accounting for lost/deferred revenues, e.g. due to canceled/postponed elective procedures

CONTACT INFORMATION

If you are interested in learning more about PanX 2018 and the recommendations listed in this document, contact Dr. Syra Madad at Syra.Madad@nychhc.org or 212-323-2521.

ACKNOWLEDGEMENTS

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EXERCISE PLAYERS FOR PANX 2018

Module 1: Healthcare Delivery Impact & Response	
Player	**Role**
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Victor Cohen	• Senior Assistant Vice President, Pharmacy
William Foley	• Senior Vice President, Acute Care Operations
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Carey Hamblin	• Chief Nursing Officer, Ambulatory Care Operations
Dr. Khoi Luong	• Director Medical Affairs, Post-Acute Care Operations
Dr. Theodore Long	• Vice President, Ambulatory Care
Monefa Anderson	• Chief of Staff, Senior Assistant Vice President, Nursing (delegate for Dr. Mary Ann Marra, Interim System Chief Nursing Officer)
Ana Marengo	• Senior Vice President, Communications & Marketing
Dr. Joseph Masci	• Chairman, Global Health Elmhurst Hospital Center
Maureen McClusky	• Senior Vice President, Post-Acute Care Operations
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Yvette Villanueva	• Vice President, Human Resources
Dr. Eric Wei	• Vice President, Quality
Facilitators:	Drs. Syra Madad & Joshua Moskovitz

Module 2: Public Health Partners & Liaisons	
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Dr. Diana Martinez	Senior Advisor, Health Policy, City Hall
Dr. David Prezant	Chief Medical Officer, Office of Medical Affairs, New York City Fire Department
Marisa Raphael	Deputy Commissioner Office of Emergency Preparedness and Response, New York City Department of Health and Mental Hygiene
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Facilitators:	Drs. Syra Madad & Nicholas Cagliuso