

New York City  
Health Care System  
Preparedness

# ANNUAL REPORT

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New York City Department of  
Health and Mental Hygiene  
Office of Emergency  
Preparedness and Response

**NYC**  
Health



# CONTENTS

4

**Section 1:**  
**Overview**

8

**Section 3:**  
**The NYC Health  
Care Coalition**

12

**Section 5:**  
**Facility Participation  
by the Numbers**

18

**Section 7:**  
**Preparing to Respond  
to Highly Infectious  
Diseases**

6

**Section 2:**  
**NYC Health Care System**

10

**Section 4:**  
**Highlighting the NYC  
Pediatric Disaster Coalition**

16

**Section 6:**  
**Long-Term Care Facilities**

23

**Conclusion:**  
**Continuing Our Mission**



# SECTION 1: Overview

The New York City Department of Health and Mental Hygiene (the Health Department) helps health care providers across the city respond safely and effectively to emergencies. To further this mission, the Health Department:

- \* Promotes collaboration between health care providers and public health stakeholders to prioritize and address emergency preparedness and response gaps
- \* Ensures all health care facilities have the necessary tools and resources to care for patients and residents during an emergency event
- \* Supports the New York City (NYC) health care system's ability to meet acute health and medical needs during and after emergencies

This report summarizes the Health Department's accomplishments in these areas during 2016 and 2017.

- \* The Health Department advanced health care system emergency readiness through planning and exercises focused on how the health care system works together during mass casualty incidents and coastal storms (p. 6).  
intensive care unit services within NYC. Surge and evacuation plans improve the ability of hospitals to coordinate with emergency management operations and protect the lives of New York City's children (p. 10).
- \* New York City Health Care Coalition members advanced their own emergency preparedness capabilities; four innovative approaches are described in this report (p. 8).
- \* By June 30, 2017, nearly **70%** of NYC long-term care facilities improved their emergency preparedness capabilities by participating in technical assistance programs (p. 16).
- \* With the help of the Health Department, the NYC Pediatric Disaster Coalition (PDC) worked with 14 hospitals during 2016-2017 to complete pediatric-specific surge and evacuation plans for each hospital, bringing the total number of NYC hospitals with pediatric-specific plans to 30. This number includes all hospitals that offer pediatric
- \* NYC's seven hospital networks trained **4,639** frontline staff on Ebola plans and trained **3,463** staff on wearing and removing personal protective equipment (PPE), ensuring that frontline staff in hospitals and clinics were up-to-date on best practices for infection control and personal protective equipment (p. 18).

# 30

hospitals now have pediatric-specific plans

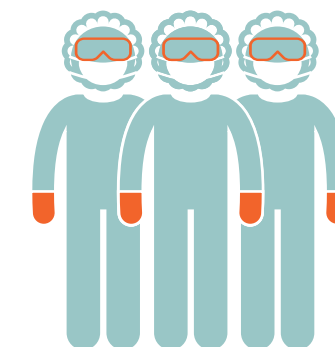


# 70%

of NYC long-term care facilities improved their emergency preparedness capabilities



4,639  
staff trained on Ebola plans



3,463  
staff trained on wearing and removing personal protective equipment (PPE)

The Health Department's health care system preparedness programs are primarily funded by the Assistant Secretary for Preparedness and Response (ASPR) Hospital Preparedness Program (HPP), with additional support from the Centers for Disease Control and Prevention's (CDC) Public Health Emergency Preparedness Program (PHEP)

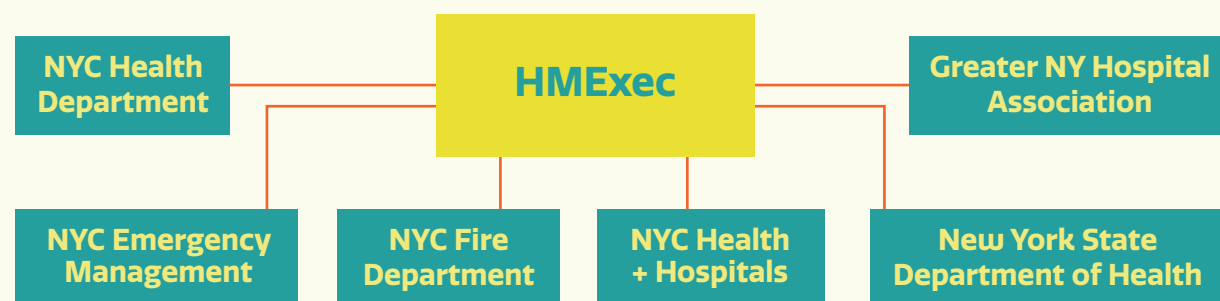
To learn more about the Health Department's health care preparedness, visit [nyc.gov/health](http://nyc.gov/health) and search **hospitals**.

## SECTION 2: NYC Health Care System

New York City's health care system is large and complex. It serves 8.5 million residents in many types of facilities and employs hundreds of thousands of New Yorkers.

The Health Department has a key role in preparing the health care system for emergencies. As part of its preparations the Health Department connects health care delivery system stakeholders and includes them in citywide planning and exercises.

**The Health Department is a founding member** of the Health and Medical Executive Advisory Group (HMEExec). HMEExec is comprised of emergency planning and operations leaders from the Health Department, New York City Fire Department (FDNY), Greater NY Hospital Association (GNYHA), NYC Health + Hospitals, NYC Emergency Management and New York State Department of Health (NYSDOH). HMEExec meets monthly to address priority health and medical preparedness planning initiatives, support collaboration and coordination between agencies and the health care delivery system, and make progress on issues that affect the NYC health care system.



Including health care delivery system stakeholders in citywide planning and exercises is one key way to prepare the health care system for emergencies.

### Spotlight on an Exercise:

## Mass Casualty Discussion-Based Exercise

In January 2017, the Health Department organized a discussion about the response structure of City agencies and hospitals during a mass casualty event. More than 70 participants attended, including representatives from the FDNY, the NYC Police Department (NYPD), NYC Emergency Management, the Health Department, GNYHA and 18 NYC hospitals.

The exercise depicted a scenario with multiple shooters at protests in two boroughs. Participants discussed how City agencies work with hospital response structures; protocols for initial triage, transportation and admission of patients from a mass casualty scene; and notification and public information during such an event. Findings from the exercise included ways to improve coordination between agencies, hospitals and law enforcement, and how to strengthen information-sharing systems.



### Spotlight on Planning:

## NYC Coastal Storm Operations Overview for Health Care Facilities

Working with HMEExec members, the Health Department helped develop and distribute the "NYC Coastal Storm Operations Overview for Health Care Facilities." This document summarizes the City's coastal storm planning assumptions and citywide operations likely to be implemented during coastal storm response, and guides health care facilities on their own coastal storm preparation. HMEExec plans additional hazard-specific guides to further improve health care systems preparedness.



**SECTION 3:**

# The NYC Health Care Coalition

The Health Department supports multiple health care coalitions in New York City, and, since 2012, has bolstered coalition assessments, planning, trainings and exercises. The New York City Health Care Coalition (NYCHCC) brings together leadership from the city's health care coalitions and the Health and Medical Executive Committee. The NYCHCC Leadership Council supports collaboration between health care sectors and organizations.

The Health Department coordinates the activities of the NYCHCC to facilitate interactions between acute, long-term and ambulatory care sectors to build relationships and awareness of planning assumptions. These interactions help identify opportunities for collaboration and build overall emergency management capacity for the entire NYC health care system.

NYCHCC Leadership Council meetings are a forum to share best practices. Some of the best practices highlighted during 2016 to 2017 include:

### System-Level Incident Command System (ICS)

The Montefiore Emergency Preparedness Coalition developed a system-level Incident Command System (ICS) that will enable effective command, control and coordination of Montefiore's acute care hospitals and ambulatory sites during emergencies. The system-level ICS helps connect external stakeholders and improve Montefiore's response to emergency events.



### Systemwide Joint Information Center

The Mount Sinai Health System Emergency Management Partnership developed a networkwide Joint Information Center (JIC), to ensure coordination of response information, crisis communications and public affairs functions across the system's seven acute care hospitals, 45 ambulatory care practices and other clinical and administrative services. This effort will improve internal and external information sharing during a response.

### Borough Resource Book

The Staten Island Community Organizations Active in Disaster Coalition (SI COAD) listed services that member organizations may provide during a large-scale disaster. This guide informs partner organizations, elected officials and agencies who will work alongside the SI COAD in the aftermath of large-scale disasters.

### List of NYCHCC Leadership Council Members

#### BOROUGH COALITIONS:

- Bronx Emergency Preparedness Coalition (BEPC)**
- The Brooklyn Coalition (TBC)**
- Emergency Preparedness Coalition of Manhattan (EPCOM)**
- Queens County Emergency Preparedness Health Care Coalition (QCEPHC)**
- Staten Island Community Organizations Active in Disaster Coalition (SI COAD)**

#### NETWORK COALITIONS:

- Mount Sinai Health System Emergency Management Partnership (MSHS EMP)**
- MediSys Emergency Preparedness Coalition (MediSys)**
- Montefiore Emergency Preparedness Coalition (MEPC)**
- New York City Health + Hospitals (H + H)**
- NYU Langone Hospitals**
- Northwell Health System**
- Fourteen Independent Hospitals**
- NewYork-Presbyterian Healthcare System**

#### SUBJECT-MATTER EXPERTISE COALITIONS:

- Pediatric Disaster Coalition (PDC)**
- North HELP Coalition**
- Primary Care Emergency Preparedness Network (PCEPN)**
- Continuing Care Leadership Coalition (CCLC)**
- Southern New York Association (SNYA)**
- Greater New York Health Care Facilities Association (GNYHCFA)**
- LeadingAge New York (LANY)**
- Empire State Association of Assisted Living (ESAAL)**
- New York State Center for Assisted Living (NYSCAL)**
- Argentum**

## SECTION 4:

# Highlighting the NYC Pediatric Disaster Coalition

New York City is home to approximately 1.8 million people under the age of 18, representing 21% of the population.\*

The New York City Pediatric Disaster Coalition (PDC), housed in Maimonides Medical Center, brings together hospitals, public health agencies (including the Health Department), municipal services and community groups to prepare for mass casualty events affecting children in New York City.

\* PDC worked directly with 14 hospitals during 2016-2017 to complete **pediatric-specific surge and evacuation plans** for each hospital, bringing the total number of NYC hospitals with pediatric-specific plans to 30 (including all hospitals that offer pediatric intensive care unit services within NYC).

For more information, visit [pediatricdisastercoalition.org](http://pediatricdisastercoalition.org).



\*(Source: 2016 Population Estimates U.S. Census)

## Pediatric Surge Exercise

Explosions across New York City target elementary schools. Hundreds of severely injured and traumatized children, teachers and parents flood hospital emergency departments in the five boroughs. Municipal emergency medical services rush to respond. What happens next?

This scenario was part of a PDC exercise in May 2017. The exercise tested the NYC health care system's ability to respond to a massive surge of pediatric trauma patients, and was the largest citywide exercise that focused primarily on caring for injured children. A total of 28 hospitals that care for pediatric patients participated in the exercise. These hospitals rapidly responded to more than 60 simulated patients with a range of injuries and conditions, including:

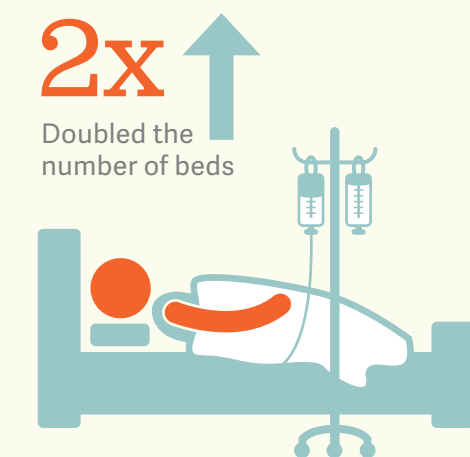
- \* A 7-year-old boy unresponsive after a traumatic injury to his head
- \* A toddler with burns to the face, chest and abdomen
- \* A 12-year-old child distraught after witnessing injuries from the explosion

### Hospitals assessed their available resources, including:

- \* Nursing and specialty staff
- \* Medication and equipment, including imaging equipment and burn supplies
- \* Communications and incident command processes to mobilize staff and other resources
- \* Ability to transfer patients needing specialized care to hospitals with the appropriate services

Coordination between FDNY and participating hospitals was critical to the success of this exercise and supported transfers for patients who required specialty care. During the exercise, the hospital participants rapidly increased their pediatric critical

care capacity. They more than doubled the number of beds in pediatric intensive care units (PICUs) and added 1,105 pediatric inpatient beds, so children could stay in the hospital for an extended period of time. For this scenario, they also opened 203 operating rooms that could treat children who needed surgery.



### Participants also identified some challenges, including a limited number of the following:

- \* Pediatric supplies: More than half of the hospitals did not have enough supplies to treat critically injured children.
- \* Pediatric specialists: Doctors who could perform brain surgery on children as well as ear, nose and throat specialists were in short supply.
- \* Hospital resources for additional adult patients: Beds, supplies and staff would have been further strained if the disaster scenario had included large numbers of adult patients.

Through this exercise, we identified ways to improve each hospital's process and further develop our citywide plans to respond to any emergency that strains our health care system.

**SECTION 5:**

# Facility Participation by the Numbers

The Health Department funds 55 acute care hospitals in NYC. In 2016 and 2017, the Health Department provided each hospital with \$50,000 to enhance their emergency management capabilities and ensure disaster readiness.



## Hospital Activities

| Activity   | Number of Hospitals | Outcome   |
|--|---------------------|---|
| Updated Prophylaxis Dispensing Plans                             | 55                  | Hospitals will coordinate with the Health Department to distribute life-saving antibiotics or vaccines to staff and patients.   |
| Emergency Preparedness Training                                  | 50                  | More than 1,000 hospital staff were trained on topics identified in hazard vulnerability analyses; 29% of trainings were about responding to an active shooter inside the hospital. |
| Community Engagement   | 11                  | Hospitals worked with more than 400 community members and organizations to raise awareness around personal preparedness to promote "whole community" responses.                     |
| Participated in Annual Emergency Preparedness Symposium Meetings | 50                  | One hundred sixty-one hospital emergency preparedness staff, representing 50 hospitals, attended two full-day meetings to develop plans and share best practices.                   |

## Design Your Own Activity

Twenty-one hospitals completed activities to address possible emergency situations. Activities involved planning, trainings or exercises on a range of topics, including:

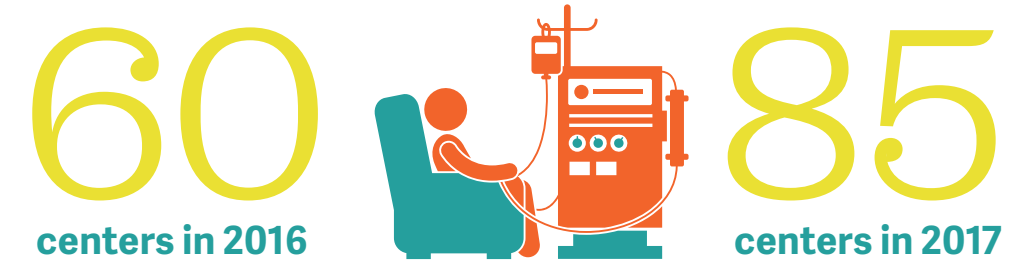
| Activity   | Number of Hospitals |
|--|---------------------|
| Information Technology Disruption or Cyberattack | 8                   |
| Departmental Emergency Operations Plans (DEOP)   | 4                   |
| Patient Influx/Surge Capacity                    | 3                   |
| Active Shooter                                   | 2                   |
| Other Topic                                      | 4                   |



### The Northern Manhattan Health Care Emergency Liaison Partnership Coalition (North HELP)

led by Mount Sinai Hospital, works with NYC dialysis centers, transplant and chemotherapy providers, and opioid treatment programs to build preparedness, response and community resilience for providers serving these vulnerable populations, such as patients with end-stage renal disease and those in OTPs, during disasters. The Health Department funds North HELP to increase program participation and outreach.

- \* North HELP membership expanded from 60 dialysis centers in 2016 to 85 dialysis centers in 2017, a 42% increase in membership.



- \* New York City Medical Reserve Corps (NYC MRC) trained 182 opioid treatment providers (OTP), enabling OTP staff to educate their patients on how to prepare for emergencies.
- \* Fifteen dialysis centers practiced using an electronic situational awareness tool for communication during a disaster scenario. These 15 centers can now provide real-time updates with other citywide partners during emergencies.
- \* Along with NYC MRC, North HELP facilitated the Patient Outreach Emergency Preparedness Program to 26 dialysis centers. In this program, 1,428 clients were trained during 2016 and 2017, for a total of 1,728 trained since 2015.

**The Primary Care Emergency Preparedness Network (PCEPN)**, led by the Community Health Care Association of New York State (CHCANYS) and the Health Department, formed in 2009 to support primary care emergency preparedness and response activities.

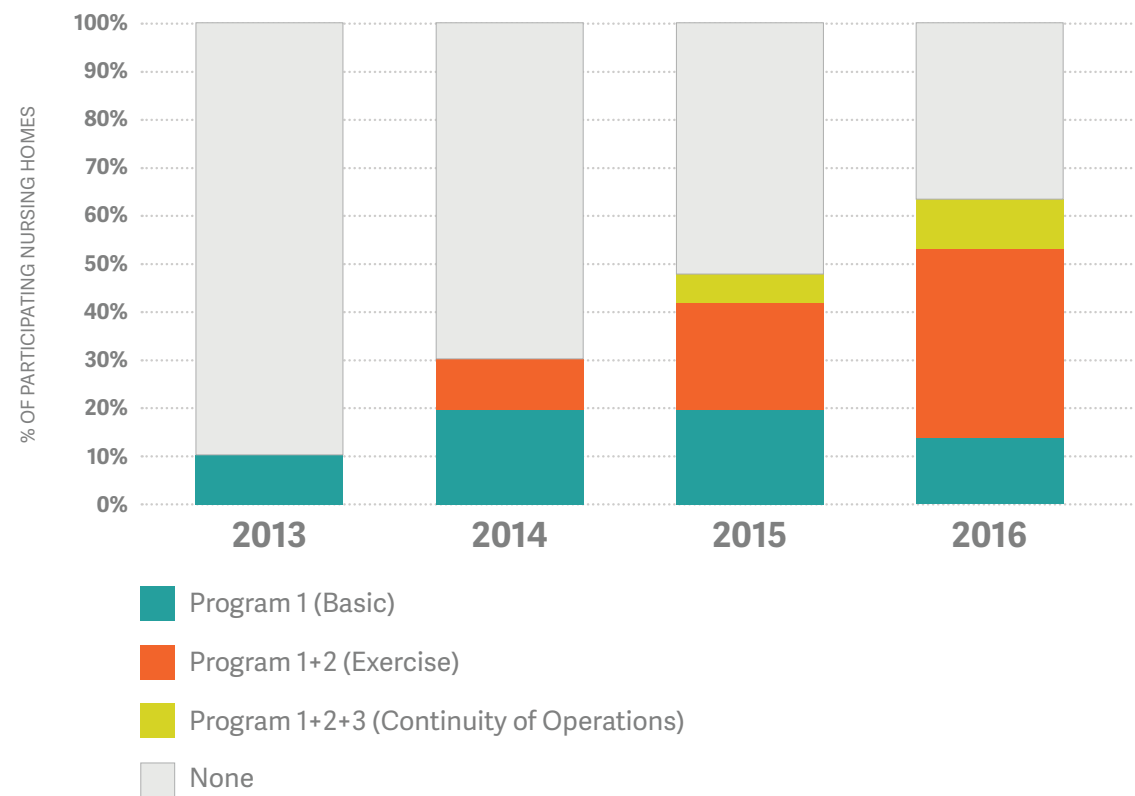
- \* PCEPN conducted 16 mystery patient drills in primary care settings, demonstrating that 75% of the participating sites appropriately screened a potentially infectious patient within 10 minutes of arrival and 69% of the sites isolated a potential infectious patient within 10 minutes after screening.
- \* PCEPN provided an emergency management seminar to 86 primary care providers citywide. The seminar covered key elements of the Homeland Security Exercise and Evaluation Program (HSEEP) doctrine, as well as new Centers for Medicaid and Medicare emergency preparedness rules.
- \* PCEPN conducted 31 on-site emergency preparedness gaps and needs assessments for primary care sites citywide. Of these sites, 78% had significant components of a comprehensive emergency management program.



# SECTION 6: Long-Term Care Facilities

New York City is home to 170 nursing homes and 78 adult care facilities. The Health Department offers three programs, intended to be completed in sequence, that are aimed at improving emergency response in these long-term care facilities.

## Cumulative NYC Nursing Home Facility Participation in Long-Term Care Emergency Management Programs



### Long-Term Care Emergency Management Program

The **Long-Term Care Emergency Management Program (LTEMP)**, started in 2013, provides each participating nursing home with three full-day learning sessions and two on-site comprehensive emergency management learning sessions. Facilities that complete the LTEMP enhance their knowledge of emergency management, develop emergency operations policies and participate in a discussion-based exercise. During 2016 and 2017, 23 nursing homes and 13 adult care facilities completed the LTEMP.

### Long-Term Care Exercise Program

The **Long-Term Care Emergency Exercise Program (LTCEXP)**, started in 2014, provides a seven-month technical assistance program that includes one full-day learning session and three planning meetings, culminating in a functional exercise for all participants. In 2016 and 2017, 33 nursing homes completed the program and can now design, develop and complete exercises tailored to the needs of their patients and facilities.

### Long-Term Care Continuity Planning Program

The Health Department introduced the **Long-Term Care Continuity Planning Program (LTCCPP)** in 2015. The LTCCPP aims to build resilience for long-term care facilities by enhancing their ability to sustain operations and continue resident care during a loss of external resources or other emergencies. In 2016 and 2017, 10 additional facilities completed the LTCCPP program.

### Training Long-Term Care Staff

Nursing home trade associations and adult care facility associations conducted a total of seven webinars available to facility staff. Topics included long-term care emergency preparedness requirements, overview of emergency exercises and emergency management of cyber incidents.

## SECTION 7:

# Preparing to Respond to Highly Infectious Diseases



### Bellevue Regional Treatment Center

- ★ Bellevue Hospital is the Regional Ebola and Special Pathogen Treatment Center for New York, New Jersey, Puerto Rico and the Virgin Islands (i.e., HHS Region 2).
- ★ Bellevue ensures that 135 health care workers (including laboratory and ancillary staff) are trained quarterly on personal protective equipment (PPE), infection control and the safe care of special pathogen patients, including pregnant women and children.
- ★ Bellevue is building regional capacity by developing a negative-pressure procedure room and high-volume autoclaves.



### Hospitals and Health Care Coalitions

- ★ Three NYC hospitals designated by New York State to assess and treat Ebola patients each held an exercise that tested their new protocols for infectious diseases other than Ebola. During this exercise, 870 staff received training on PPE and infection control procedures for the safe treatment of highly contagious patients.
- ★ NYC's seven hospital networks trained 4,639 frontline staff on their Ebola plans and trained 3,463 staff on wearing and removing PPE, ensuring frontline staff in acute care settings (hospitals and clinics) were up-to-date on best practices for infection control.
- ★ NYC's seven hospital networks tested their response plans for highly infectious diseases. Five of the seven collaborated with FDNY to plan and conduct their exercises.





### First Responders

- ★ The Regional Emergency Medical Services Council of NYC, a nonprofit organization that coordinates non-municipal emergency medical services in NYC, hosted infection prevention and recognition workshops with 93 total participants.
- ★ The FDNY Ebola/Special Pathogens training program trained 3,227 EMS providers in PPE use and the safe transport of patients with severe infectious diseases.
- ★ Thirty-nine specialized FDNY Hazardous Material Tactical (HazTac) Units were maintained and received more than 150 hours of training to conduct triage, medical management, antidote administration and care of non-ambulatory and ambulatory contaminated patients.



### Highly Infectious Disease Exercise

**Two siblings complaining of fever, nausea, diarrhea and abdominal pain go to NYC Health + Hospitals Elmhurst for evaluation. The intake nurse notes that before coming to the hospital, they traveled to Nigeria, Benin and Saudi Arabia. Meanwhile, their older brother, also sick, arrives at a community health center in the Bronx. Could these patients have a highly infectious disease, like Lassa fever or Middle East Respiratory Syndrome (MERS)? What happens next?**

NYC Health + Hospitals used this scenario to test their highly infectious disease plans in a full-scale exercise. The exercise involved more than 100 players at three clinical sites (a community health center, Elmhurst Hospital Center's pediatric emergency department and Bellevue Hospital Center), the Health Department, FDNY, NYC's Office of the Chief Medical Examiner and NYC Emergency Management. The exercise tested emergency operations coordination, health care system preparedness, fatality management and information-sharing capabilities. As a result, NYC Health + Hospitals revised PPE and communications procedures.



### Interagency and Regional Planning

- ★ The Health Department participated in a full-scale exercise in November 2016 that simulated a suspected Ebola patient arriving on a commercial aircraft to JFK airport. This exercise tested notification and patient-transport protocols.
- ★ The Health Department led a planning effort with public health, emergency management, EMS, and hospital partners from New Jersey, New York State, Puerto Rico and the U.S. Virgin Islands. Participants completed a regional transport plan for patients with Ebola who require transport to the Regional Treatment Center at Bellevue.

### National Infection Prevention and Control Initiative (NIPCI)

Modern health care practice uses many types of invasive devices and procedures to treat patients and help them recover. Infections can occur when using devices, such as catheters or ventilators. These infections, known as health care-associated infections (HAIs) threaten patient health and safety. Limiting HAIs every day requires the same infection control practices as when safely treat patients during widespread public health emergencies.

In an effort to improve preparedness against infectious disease threats, the Health Department conducted 121 site visits since April 2016 in long-term care, primary care, urgent care and acute care facilities across the city. Site visits include an initial infection control assessment, a formal feedback letter with improvement plans and a six- to 12-month follow-up survey to confirm and document progress.

As a result of the site visits, NYC health care facilities have strengthened their capacity to recognize and prevent the spread of HAIs through better policies and practices. Additionally, to support the development of antibiotic stewardship programs in long-term care facilities (identified as an area of need during the site visits), the Health Department hosted the New York City Antimicrobial Stewardship Symposia for Long-Term Care in collaboration with GNYHA, Montefiore, University of Rochester, New York State Department of Health and the CDC. More than 170 participants representing 70 NYC Long-Term Care facilities attended.



## Conclusion:

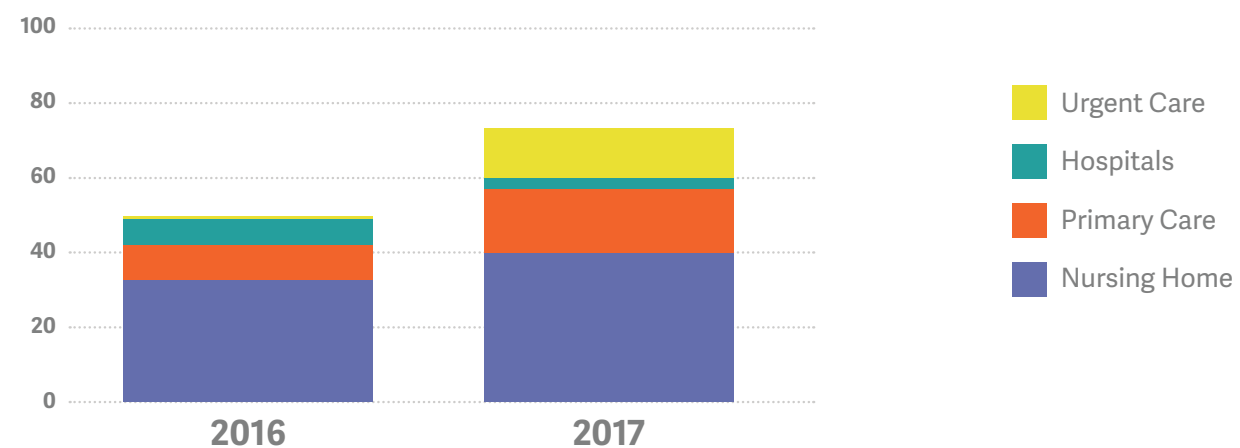
# Continuing Our Mission

Continued collaboration between NYC health care system stakeholders is key for maintaining and developing safe and effective emergency responses. The Health Department will continue to improve the NYC Health Care Coalition and bring together leadership of preparedness and response agencies, and other health care stakeholders to share best practices.

In the coming year, we will finalize the NYC Health Care Coalition Charter and continue to expand the inclusion of health care delivery system partners in planning and exercises.



### Number of NIPCI Site Visits Completed



**NYC**  
Health